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# **RADIAN**

## **CORPORATION**

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AIR MONITORING REPORT  
FOR  
C-b SHALE OIL PROJECT  
MARCH 1977  
REPORT NO. 31

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C-b Shale Oil Project  
United Bank Tower  
Denver, Colorado 80202

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I. GENERAL DESCRIPTION OF AIR MONITORING PROGRAM

Radian Corporation, under contract to the C-b Oil Shale Project, is performing the data compilation and reporting of air quality and meteorological data at one monitoring site in Northwest Colorado. The site measures and records concentrations of particulates, sulfur dioxide, oxides of nitrogen, hydrogen sulfide, total hydrocarbons, methane, and carbon monoxide. A 200-foot meteorological tower provides wind direction, wind speed, temperature, and relative humidity data at four levels (8, 30, 100, and 200 feet). Other meteorological variables measured at the tower site are insolation, barometric pressure, and precipitation.

Figure I shows the configuration of the monitoring station. The station provides a sturdy and protective covering for the monitoring equipment.

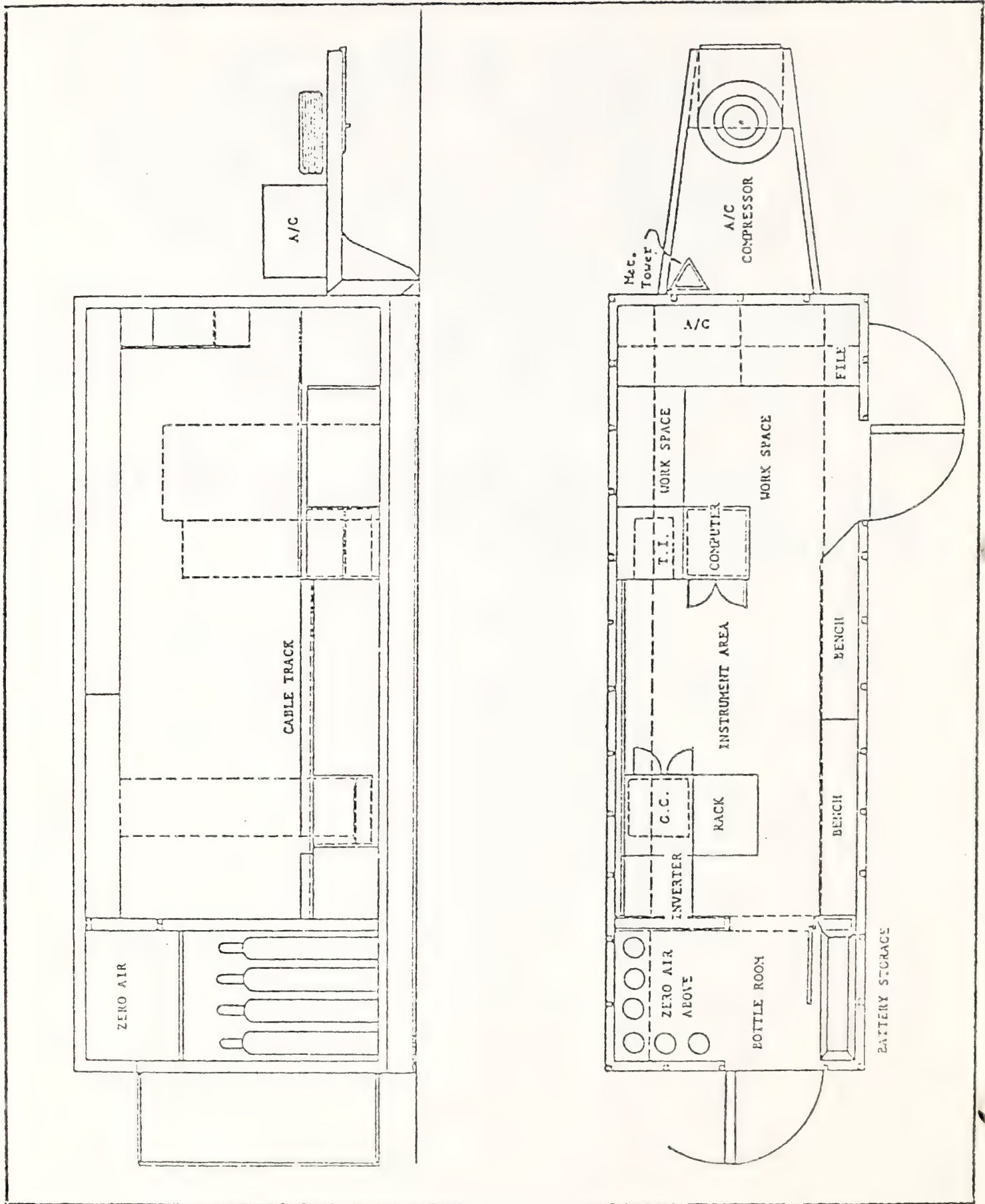


FIGURE 1. CONFIGURATION OF MONITORING STATION

## II. DESCRIPTION OF INSTRUMENT SYSTEMS

### A. Air Quality Instrumentation

Nitrogen oxides are measured with a Meloy Model NA520 analyzer. This dual-channel analyzer is based on the chemiluminescent principle and continuously monitors both  $\text{NO}_x$  and  $\text{NO}$ . A subtraction circuit in the instrument provides a continuous  $\text{NO}_2$  output, but is not used in Radian's system.  $\text{NO}_2$  is calculated once a second by the computer by subtracting the  $\text{NO}$  value from the  $\text{NO}_x$  value, thus avoiding any drift which might occur in the  $\text{NO}_2$  output of the instrument. This instrument has a minimum detectable sensitivity of 5 ppb (parts per billion) and a linearity of  $\pm 1\%$ .

Both sulfur dioxide and hydrogen sulfide are measured with Meloy Model SA185 sulfur analyzers. The hydrogen sulfide analyzer uses a Meloy Model  $\text{NO}_x$ -1 sulfur dioxide scrubber and the sulfur dioxide analyzer uses a Meloy Model  $\text{H}_2\text{S}$ -1 hydrogen sulfide scrubber. The Model SA185 is a continuous analyzer and utilizes the flame photometric principle of operation. The minimum detectable sensitivity is 5 ppb and the linearity is  $\pm 1\%$ .

Ozone is measured with a Meloy Model OA350 analyzer. This instrument, based on the chemiluminescent principle, provides continuous measurement of ozone. The minimum detectable sensitivity is 0.5 ppb and the linearity is  $\pm 1\%$ .

Total hydrocarbons, methane, and carbon monoxide are monitored with a Bendix Model 8200 gas chromatograph analyzer. This instrument, which uses a plume ionization detector, has a minimum detectable sensitivity of 5 ppb for all three components. The Model 8200 works on a five-minute cycle, i.e., one air sample is analyzed every five minutes, and the results are displayed for five minutes via a sample and hold circuit.

The air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25mm diameter, through which a constant air flow is provided by an air pump rated at 60 cfm at 0" head pressure. The manifold has sampling ports to which 1/4" teflon lines to the instrument are connected. All joints in the sampling system are secured by O-ring compression fittings. The manifold is contained in a heated (100°F) chamber to prevent condensation of moisture. The teflon lines from the manifold to the instruments are insulated with 1/8" wall thickness rubber tubing.

The trailer has four heavy duty high volume particulate samplers (Hi-Vols). Fiberglass filter paper is used for the collection of particulate samples, after which each filter is brought to a controlled humidity before weighing. Each Hi-Vol has a flow recorded to permit correction for changes in air flow as the filter becomes loaded with particulates. Each Hi-Vol runs for a 24-hour period (midnight to midnight) and is turned on and off by the computer. The Hi-Vols, which were manufactured by Radian, were designed following guidelines recommended by the Environmental Protection Agency.

In addition to the normal Hi-Vol particulate samples, a duplicate Hi-Vol sample is collected every sixth day on special filter paper for trace element analysis. Once each quarter these samples are composited and analyzed for gross radioactivity and trace element content.

#### B. Calibration Procedures

The trailer contains a Meloy Model RAD-1 calibration unit. This instrument provides a zero air supply, SO<sub>2</sub> span gas from an SO<sub>2</sub> permeation tube, and NO span gas obtained by precisely



diluting bottled NO span gas. The computer-controlled calibration of all instruments is automatically performed once a day. Each instrument is first switched to zero; the computer monitors the output of each channel and takes a new zero reading after a stable zero signal has been reached. This zero reading is compared by the computer to the zero reading obtained 24 hours before, and if a drift in excess of 10 ppb has occurred, an excess zero drift light for the channel in question is turned on on the System Status Panel. Next, span gas is supplied to each channel and the computer decides when a stable span value has been reached. This value is recorded and compared to the previous day's value. An excess span drift light on the System Status Panel is turned on if a drift exceeding 10 ppb occurs. The instruments are then returned to the monitor mode and after two minutes the computer resumes data taking.

The bottled NO gas used at each site was obtained from Precision Gas Products. Pre-purified grade hydrogen is used in the SO<sub>2</sub> analyzers.

The SO<sub>2</sub> permeation tubes were manufactured by Metronics Association, Inc. Their output has been verified by comparison to the output of National Bureau of Standards tube 10-42. Both SA185 analyzers in each trailer are calibrated with the SO<sub>2</sub> from the permeation tube. This instrument responds to the number of sulfur atoms per molecule; thus, SO<sub>2</sub> can be used to calibrate both the H<sub>2</sub>S and SO<sub>2</sub> monitors.

The Model OA350 ozone analyzer has its own calibration system which provides a zero check and a span check. The ozone calibration system is verified by comparison to a calibrated ozone generator maintained in Radian's laboratory in Rifle.



The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from AirCo's Rare and Specialty Gas Division. This span gas contains methane and carbon monoxide in air, the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroed with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

The Hi-Vol particulate samplers were calibrated using a Calibration Kit from General Metal Works.

### C. Data Acquisition System

The basis of the data acquisition system is a Data General NOVA 1200 minicomputer. The NOVA, which has a basic cycle time of 1.2  $\mu$ sec, is equipped with automatic program load and power fail/automatic restart features. The computer utilizes 16K 16-bit words of core memory. Analog-to-digital conversion is accomplished via an ADC built by Radian Corporation. The input/output unit for the system is Texas Instrument's KSR 733 keyboard/printer. This model teletype provides keyboard entry and hardcopy printed output. The data are also recorded on a cassette magnetic tape unit with three drives. The cassette unit is utilized for program storage and loading as well as for recording. To reduce wear on mechanical parts, the power to the teletype and cassette units is turned on only when the unit(s) is (are) to be used. Several important functions in the instruments as well as in the computer and the trailer are monitored by means of lights on a System Status Panel. These data lights are written onto cassette tape to monitor the complete status of the system every five minutes. The Data Acquisition System also monitors the presence of 100V power from the power lines. In its absence, the computer, which is powered by batteries, switches all trailer

systems to battery-provided power. If the line voltage is restored before the batteries are discharged to a specified level, the trailer system is switched back to line power.

D. Meteorological Instrumentation

200-Foot Meteorological Tower

The tower has instrumentation at four levels: 8 feet, 30 feet, 100 feet, and 200 feet. At all four levels, there are: wind speed, wind direction, and temperature and relative humidity sensors in a power-aspirated radiation shield. Temperature difference thermistors (also in power-aspirated radiation shields) and their associated circuitry take lapse rate measurements for the 30-foot to 100-foot layer and the 30-foot to 200-foot layer. In addition, this site has a Precision Spectral Pyranometer, a barometer, and a tipping bucket rain/snow gage.

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather coaxial cup and damped vane assembly. The prototype model has been in operation for years under the most demanding weather conditions, performing continuously with the utmost reliability. The wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:

Wind Speed

- . Starting Threshold: 0.75 mph.
- . Response Distance: 18 feet (63% recovery).
- . Flow Coefficient: 7.9 feet/Revolution.
- . Accuracy:  $\pm 0.4$  mph or 1% (whichever is greatest)

Wind Direction

- . Starting Threshold: 0.75 mph.
- . Delay Distance: 4 feet (50% recovery).
- . Damping Ratio: 0.5 to 0.6.
- . Accuracy (540° system):  $\pm 1\%$ .
- . Range: 0° to 540°.

The relative humidity and temperature sensors are mounted within a power-aspirated radiation shield at each tower level. All aspirators and sensors are of the Model 840 Series by MRI. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. Ambient air is drawn into the shield and across the sensors at approximately 15 feet per second. This intake air is essentially sampled from a hemispherical space which is approximately 3-inch radius from the tube opening. Speed of the incoming air at the periphery of this hemisphere is approximately 1 mph.

The temperature sensor is comprised of a dual thermistor and resistor network. This circuit provides a linear resistance change with an air temperature change. The relative humidity sensor is placed alongside the temperature elements inside the shield where it is exposed to a constant flow of air. Circulation to both sides of the sensing element produces accurate monitoring with a good response time. The specifications on the sensing elements are as follows:



Temperature

- . Accuracy:  $\pm 0.25^{\circ}\text{C}$ .
- . Range:  $-50^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ .

Humidity

- . Accuracy:  $\pm 3.0\%$  RH.
- . Range: 0% to 100% Relative Humidity.

Measurements of temperature difference are taken for two layers, the 30-foot to 100-foot and the 30-foot to 200-foot layer. The thermistors and circuitry used for these measurements are separate from the thermistors measuring air temperature. The use of separate thermistors and circuitry to measure  $\Delta T$  allows for much greater accuracy and resolution in the measurements, which is necessary for stability assessments. Two  $\Delta T$  thermistors are at the 30-foot level, one is at the 100-foot level, and one is at the 200-foot level. All of these  $\Delta T$  thermistors are mounted within power-aspirated radiation shields. The specifications on the  $\Delta T$  instrumentation are as follows:

- . Accuracy:  $\pm 0.1^{\circ}\text{C}$ .
- . Range of  $\Delta T$  Circuit (Lower Level-Upper Level):  
 $+9\text{F}^{\circ}$  to  $-9\text{F}^{\circ}$ .

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The meteorological tower itself is a 200-foot Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with  $\frac{1}{2}$ " of radial ice per EIA Standard RS-222-B, to

support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12-feet long, three outside work platforms, an inside ladder for climbing, two base ground kits and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specifications.

The signals from the tower instrumentation are fed from multiple signal cables into transmitters mounted at the base of the tower. After signals have been converted to analog signals, they are fed into a junction box, also at the tower base, where they are assimilated into one coaxial cable. The signals are then run underground within 3" PVC conduit to the A-to-D assembly, where they are processed. The transmitters are shielded and insulated from the elements. The signal cable is run underground in PVC conduit in order to minimize damage from the weather or from various rodents in the region.

The auxiliary equipment at the tower site consists of a heated tipping bucket rain/snow gage, an analog barometer, and a Precision Spectral Pyranometer. The rain/snow gage is the Model P511-E unit by Weather Measure. In the case of this gage, the durability and reliability of a tipping bucket gage are combined with heavy-duty electric heaters to make this an all-purpose precipitation sensor. This gage may be used to measure both snowfall and rainfall. An insulating cover of poly-vinyl chloride and a thermostatic control insure the proper gage temperature. The thermostatic control is adjustable from 0 to 35°C. Snow falling into the inlet funnel is melted. The resulting water (from rain or snow) drains into a precision tipping bucket mechanism which activates a mercury switch each time the bucket fills and tips. The gage is constructed of durable corrosion-resistant materials to provide many years of service. The

specifications for this gage are as follows:

- . Orifice: 8 inches.
- . Calibration: 0.01 inch.
- . Accuracy: 0.5% (Calibrated at 0.5 in/hr).
- . Sensor: Chrome-plated tipping buckets.
- . Switch: Mercury, 0.1-second closure.
- . Heat Control: Thermostat adjustment, 0 to 35°C.

The barometer is the B242 Analog Output Barometer by Weather Measure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on this instrument, which is mounted inside the monitoring trailer at the site, are as follows:

- . Range: Specially designed for the 100 millibar interval from 725 millibars to 825 millibars.
- . Resolution: Infinite.
- . Linearity:  $\pm 0.5$  millibar, over the 100 millibar interval.

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand  $4\frac{1}{2}$  feet from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- . Sensitivity: 5 mv. per  $\text{cal}/\text{cm}^2/\text{min}$ .
- . Independence: 300 ohms.
- . Temperature dependence: Sensitivity constant to within  $\pm 1$  percent over the ambient temperature range from -20 to +40°C.



- . Linearity: Response linear up to intensities of 4 cal/cm<sup>2</sup>/min.
- . Response time: 1 second (i/e signal).

All instrumentation is factory-calibrated and is field-calibrated at various intervals. Sling psychrometers are used to calibrate the humidity sensors; known temperatures and/or resistances are used to calibrate the thermistors; and an rpm calibrating unit is used to calibrate the anemometers. The wind direction instrumentation is aligned to true north (reference direction) by means of a surveyor's transit.

### III. MICROMETEOROLOGICAL AND TERRAIN FEATURES

The Piceance Creek Valley and C-b Shale Oil Tract are situated such that many microscale meteorological phenomena affect the region where the ambient air monitoring unit is located. Trailer 023 and its associated 200-foot meteorological tower are located atop a plateau to the south of the valley, high enough to be affected mostly by gradient flow conditions.

The elevation at the meteorological tower site (Trailer 023) is 6940 feet above sea level. The largest gradients in elevation in this area, of course, occur at the Piceance Creek Valley walls. However, the northern valley walls are slightly steeper than those at the southern boundary of the valley, which then slopes upward gradually toward the C-b Tract. The Piceance Creek Valley decreases in elevation from east to west in this area, so that nighttime katabatic cold-air drainage flows advect from east to west.

Site 023 is approximately 2.5 miles south of the Piceance Creek Valley. This location is relatively high compared to its surroundings, with the nearest point having an elevation greater than 7000 feet being .5 miles to the south of the tower. The tower itself is on the top of a small knoll located between Scandard and Sorghum Gulches. Because of its location and the irregularities of the surrounding terrain, meteorological patterns are varied here.

Wind instrumentation is mounted at four levels of the meteorological tower: 8 feet, 30 feet, 100 feet, and 200 feet. The top level of the tower generally remains in gradient wind flow. That is, the winds at that level are normally generated

by synoptic-scale features and are usually separated from terrain features and micrometeorological circulations. Occasionally, a weak anabatic flow influence is experienced. However, such is not the case with the three lowest measurement levels. To varying degrees, these levels are influenced by both the katabatic and anabatic circulation cells. However, when strong pressure gradient forces exist in the region and the synoptic-scale wind flow is strong, all four tower levels will reflect a gradient wind flow as the winds increase in strength and height.

The terrain atop the plateau is generally barren and fairly rugged, with a few scattered small trees. The topsoil dries rapidly and is very fine, resulting in blowing dust when dry, windy conditions exist. In the Piceance Creek Valley, the terrain is fairly grassy and flat, with steep valley walls on either side. Surface winds are normally rather light in this valley unless channeling effects occur.

During clear nights with rather light pressure gradient-induced winds, rapid radiational cooling will occur in the region because of the barren nature of the terrain and the generally dry character of the air in this portion of the country. As a result, the diurnal range of temperatures will be extremely large. Because of the katabatic flow in the valley, nighttime temperatures will generally be lower in the valley than on the plateau. During the winter, especially, temperatures in the valley may be 20F° lower than they are on the plateau during the early morning hours.



IV. OPERATING TIME ANALYSIS FOR EACH SITE

This section presents the operating statistics for each of the major subsystems contained in the monitoring station. Table I shows the specific number of hours that each of these subsystems were inoperative for the month. The column labeled "DIGITIZING SYSTEM" indicates the entire data acquisition system; therefore, downtime hours appearing in this column means total loss of data. These instances include, in addition to computer downtime, power failures, no power available, and self-automated shutdown periods such as during air conditioner malfunctions.

Calibration time is not considered to be downtime and is, therefore, not included in the downtime figures. The amount of time used in calibrating the instruments is given at the bottom of the downtime analysis table and is reported as total calibration hours for each channel for the entire month. As is evident in the calibration figures, channels can be calibrated independently of one another. No calibration time is given for particulate monitoring since Hi-Vol calibration occurs infrequently and only during the off-duty cycle for each Hi-Vol while another Hi-Vol is taking data.

[illegible][illegible]

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[illegible]



### Table 1.

[illegible]

V. MONTHLY METEOROLOGICAL SUMMARY

A. Summary of the Meteorological Conditions over  
North America during March 1977

March 1977 brought warmer than normal temperatures to the eastern two-thirds of the United States. The Rockies and West Coast experienced near normal temperatures. Monthly precipitation totals were quite variable over most sections of the country. The polar front jet stream was somewhat less developed than in earlier months and also changed its orientation. The long wave circulatory pattern for March featured a mean trough in the western United States and a long wave ridge in the eastern United States. The reverse was true during the winter months preceding March. The ridging in the eastern and central sections of the country accounted for the above normal temperatures in those areas during March.

The long wave circulation was zonal (west-east) from the 7th through the 9th and the 16th through the 22nd. Split flow occurred on the 2nd and 3rd, from the 11th through the 13th, and from the 26th through the 30th. Meridional (north-south) flow occurred on the 1st, from the 4th through the 6th, on the 10th, the 14th, and 15th, from the 23rd through the 25th, and on the 31st.

Extratropical low pressure systems were frequent in the United States during March. These low pressure systems typically increase in number during the spring months because of the interaction between warm and cold air. The region most affected by these low pressure systems was from the Rockies eastward through the Great Plains. The dates and locations of these low pressure systems were as follows:

1st: Southwest  
 2nd: Rockies  
 3rd: Great Plains  
 4th-5th: Great Lakes  
 7th: Atlantic Seaboard  
 9th: Pacific Northwest  
 10th-12th: Great Plains  
 13th: Great Lakes  
 14th: New England  
 15th-16th: West Coast  
 17th: Rockies  
 18th: Great Lakes  
 19th: Northern Rockies  
 20th: Great Lakes, Atlantic Seaboard  
 22nd: Great Lakes, Atlantic Seaboard  
 23rd: New England, Pacific Northwest  
 24th: New England, Northern Rockies  
 25th: Rockies  
 27th: Northern Rockies  
 28th-30th: Great Plains  
 31st: New England

On a sectional basis, the following temperature and precipitation anomalies existed during March.

<u>Section</u>	<u>Temperature</u>	<u>Precipitation</u>
Northeast	Much above normal	Much above normal
Atlantic Seaboard	Much above normal	Near normal
North Central	Very much above normal	Variable; mostly above normal
Central	Much above normal	Near normal
Southeast	Above normal	Below normal
Southwest	Slightly above normal	Variable
Rockies	Near normal	Variable
West and Pacific Northwest	Near normal	Slightly below normal



B. Summary of the Meteorological Conditions in  
Northwestern and West Central Colorado during  
March 1977

Grand Junction, Colorado, sixty miles to the south-southwest of the Tract C-b, received a total of 0.50 inch of precipitation during March, which is 0.25 inch below the monthly normal of 0.75 inch. Grand Junction received 2.3 inches of snow during March. Measurable precipitation occurred on the 1st, 2nd, 10th, 25th, 26th, and 28th. The region received 78 percent of the possible monthly sunshine. Sky cover by cloudiness averaged 5.5 out of a possible 10 during the daylight hours and 4.7 out of a possible 10 during the entire month. The region had eight clear days, thirteen partly cloudy days, and ten cloudy days during the month.

Air mass changes were frequent during March. Eight frontal passages occurred during the month. These frontal passages occurred regularly as an upper-level trough dominated the western United States throughout the month. Temperatures in the Tract C-b were cool due to seasonal influences. Transport winds over the region as a whole were stronger in March than in February. Maritime polar cold frontal passages occurred on the 1st, 8th, 9th, 13th, 16th, 24th, and 27th. A weak continental polar cold frontal passage occurred on the 20th.

C. Summary of the Meteorological Conditions in the  
Oil Shale Tract C-b Region during March 1977

An upper-level trough which had a mean position over the western United States was responsible for the increased frequency of cold frontal passages and increased number of precipitation occurrences during March. Precipitation occurred on the 1st, 2nd, 17th, 18th, 25th, 26th, and 28th of March. Temperatures in the Tract C-b region were near normal during March compared to the above normal temperatures which occurred in the eastern United States.

Eight cold frontal passages occurred during March. Maritime polar cold frontal passages occurred on the 1st, 8th, 9th, 13th, 16th, 24th, and 27th. A weak continental polar cold frontal passage occurred on the 20th.

The monthly average temperatures recorded at the meteorological tower during March were: 28.4°F at 8 feet; 27.7°F at 30 feet; 27.8°F at 100 feet; and 26.4°F at 200 feet. These averages are approximately 1°F lower than those recorded in February. The warmest days of the month were the 9th, 23rd, and the 24th. The coolest days were the 4th, 5th, and the 29th. The highest temperature recorded at the meteorological tower during March was 56°F at the 8-foot level on the 23rd. The coldest temperature recorded at the meteorological tower was 4°F at the 30-foot level on the morning of the 29th.

Monthly average relative humidities during March were higher than they had been in February in the Tract C-b region. This increase can be attributed to a decrease in monthly average temperatures. At the meteorological tower, the monthly average relative humidities were: 70.2 percent at 8 feet; 74.1 percent at 100 feet; and 69.6 percent at 200 feet. These relative

humidities correspond to dew points of 19.5°F, 20.5°F, and 17°F, respectively. The relative humidity sensor at the 30-foot level was inoperative for most of the month. The most humid days of the month were the 2nd, 3rd, 4th, 10th, and 26th. The driest days were the 8th, 9th, 13th, 16th, 23rd, 24th, and 31st.

Wind speeds on the meteorological tower during March were stronger on the average than the winds that prevailed during February. Resultant wind vectors at the meteorological tower during March were as follows: 216.8 degrees at 2.7 miles per hour at 8 feet; 217.3 degrees at 3.9 miles per hour at 30 feet; 220.9 degrees at 4.5 miles per hour at 100 feet; and 226.9 degrees at 5.4 miles per hour at 200 feet.

The scalar average wind speeds associated with these resultant wind vectors were 6, 8, 10, and 11 miles per hour, respectively. The Ekman spiral and Ekman effect, i.e., a veering in direction and increase in speed as a function of increasing height above the surface, were in evidence during most of March. A reference to the March wind rose for the meteorological tower indicates that the winds at that location were primarily southwesterly.

The windiest days of the month at the meteorological tower were the 9th, 10th, 13th, 24th, and the 25th. The days having the lightest winds were the 3rd, 5th, 22nd, and the 26th. The highest five-minute average wind speed recorded at the tower during March was 40 miles per hour at the 200-foot level on the 25th.

Precipitation totals in the Tract C-b Monitoring Network during March were generally below normal. Although precipitation occurrences were more numerous than during February, amounts were light.



Only 0.45 inch of precipitation was recorded at the meteorological tower during March. The largest daily precipitation total recorded in the network during March was 0.13 inch on March 2nd. The greatest five-minute precipitation total recorded during the month was 0.02 inch (a precipitation rate of 0.24 inch/hour), recorded on the 1st, 17th, and 26th. Measurable precipitation ( $\geq 0.01$  inch) was recorded at the meteorological tower on the 1st, 2nd, 17th, 18th, 25th, 26th, and 28th. The precipitation was in the form of snow.

The monthly average station pressure during March was 783.9 millibars at the meteorological tower. This reading is 6.7 millibars lower than the February average station pressure of 790.6 millibars. The highest daily average station pressure occurred on the 5th through the 8th, 11th, 21st, and the 22nd. The lowest daily average station pressures occurred on the 1st, 2nd, 17th, and the 28th.

Cloudiness increased in the Tract C-b region during March, compared to the February cloud cover and insolation statistics. The region received an insolation total of 10,722.4 langleys, which is equivalent to a daily average insolation total of 346 langleys/day. This average is below the normal for March of 440 langleys/day in the Tract C-b region. On a diurnal basis, the greatest solar radiation rates occurred between 1200 and 1300 hours. The greatest daily radiation totals were received on the 15th, 22nd, 23rd, and the 27th. The lowest daily solar radiation totals were received on the 2nd, 4th, 10th, 17th, and the 29th. The greatest five-minute radiation total received during March was 7.80 langleys (a rate of 1.56 langleys/minute), which occurred on the 30th. The largest hourly insolation total received during March was 71 langleys, which occurred on the 27th between 1200 and 1300 hours.

Because of the progressively increasing solar elevations and the increasingly longer periods of daylight that prevailed during March, the total possible solar radiation which could be received during a day increased monotonically throughout the month. Therefore, even though cloudiness increased during March compared to February, the actual amount of solar radiation received also increased.

The increase in cloudiness which affected the Tract C-b during March caused the "very unstable" stability classes to become less common than they had been in February. Using the Pasquill method of stability determination, "D" stability (neutral stability) was the most common stability, occurring during 189 daytime hours, or 54 percent of the time. In decreasing order of frequency, "C" (slightly unstable) stability occurred during 112 hours, or 32 percent of the time, and "B" (very unstable) stability occurred during 46 hours, or 13.1 percent of the time. "A" (extremely unstable) stability occurred during only three daytime hours.

Using the lapse rate method of stability determination ( $\frac{dT}{dz}$ ), the neutral ("D"), slightly stable ("E"), and extremely stable ("F") stability classes were the most prevalent during March. In general, stable and/or neutral conditions prevailed during the nighttime hours and unstable and/or neutral conditions prevailed during the day. The following table is a diurnal breakdown of the various stability classes. As one proceeds from "A" to "F", the stability class ranges from extremely unstable to extremely stable. The column labeled "number of occurrences" indicates the number of times a particular stability class occurred during the month on an hourly basis. Level I presents the temperature change versus height values ( $\frac{dT}{dz}$ ) that were considered between 30 feet and 100 feet. Level II indicates the values that were considered between 30 feet and 200 feet.

LEVEL I ( $\frac{dT}{dz}$ ) 30 feet to 100 feet

Stability/Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	No. of Occurrences
A:	0	0	0	0	0	0	0	0	2	8	5	5	4	3	1	3	2	0	0	0	0	0	0	0	33
B:	0	0	0	0	0	0	0	0	7	6	10	9	13	10	11	8	10	5	0	0	0	0	0	0	89
C:	1	0	0	0	0	0	0	1	7	3	2	2	1	6	4	6	6	5	0	0	1	0	0	0	45
D:	8	9	8	8	11	13	9	12	11	12	12	13	12	12	14	14	13	19	9	7	6	8	6	7	253
E:	8	8	5	7	6	4	11	11	2	0	0	0	0	0	0	0	0	2	20	11	11	9	10	8	133
F:	14	14	18	16	14	14	11	6	0	0	0	0	0	0	0	0	0	0	1	12	12	13	14	16	175

A: extremely unstable  
B: very unstable  
C: slightly unstable  
D: neutral  
E: slightly stable  
F: extremely stable

LEVEL II ( $\frac{dT}{dz}$ ) 30 feet to 200 feet

Stability/ Class	Hour																								No. of Occurrences	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
A:	1	2	3	3	3	4	4	4	7	11	13	6	5	4	4	3	3	2	4	1	1	2	5	2	2	95
B:	4	3	1	1	4	2	2	4	9	5	10	9	13	10	13	12	14	17	9	6	3	3	2	2	2	158
C:	3	3	2	3	1	3	0	4	2	1	1	1	1	1	5	0	4	5	6	2	2	1	2	2	4	58
D:	6	7	7	5	9	8	10	6	7	10	12	14	12	11	14	12	10	4	15	7	11	5	9	9	9	220
E:	12	12	13	12	6	5	8	6	0	0	0	0	0	0	0	0	0	0	4	12	11	13	15	12	12	141
F:	5	4	5	7	8	9	7	3	0	0	0	0	0	0	0	0	0	0	0	3	3	3	1	2	2	60



Using the standard deviation of the horizontal wind ( $\sigma_\theta$ ) method of stability determination, "D" stability was the most common stability classification at the meteorological tower at the 200-foot level because of the moderately strong winds that normally occurred at that location. The stability distributions for the 8-, 30-, and 100-foot levels were unavailable due to instrumentation problems.

The bivanes at the 30-, 100-, and 200-foot levels of the meteorological tower indicated a pattern of upward vertical motion (negative vertical directions) during March. Upward vertical motion was more pronounced during the nighttime and early morning hours at the 100-foot level during March (probably because of low wind speeds). Upward motions were less pronounced at the 200-foot tower level during the early morning hours. At the 30-foot level, downward vertical motions were greatest during the daytime hours, a result which is quite unusual considering the proximity of the sensing level to the ground. Upward vertical motions were greatest during late evening and nighttime hours.

No comparison may be made of  $\sigma_\theta$  values between the bivanes and standard wind instrumentation because of instrumentation problems.

VI. DATA PRESENTATION AND SUMMARY

This section includes summaries for various recorded data at the monitoring sites. The data presentations indicate the variability of pollutant concentrations and meteorological parameters with location and time. In addition, the presentations indicate the functional dependence of pollutant concentration with wind direction. All data except suspended particulates (24-hour samples) are sampled once each second, but recorded as five-minute arithmetic averages of the one-second samples. This averaging technique tends to smooth instantaneous maximum values, and is especially evident when comparing wind gusts to local weather bureau data.

Inherent to any data acquisition system is random noise both from the recording instruments and quantization in the analog-to-digital conversion. The lower threshold for all analytical instruments is twice the maximum noise level generated by the instruments. This lower threshold is 5 ppb for all instruments, except for the ozone analyzer, for which it is 0.5 ppb. Therefore, any values appearing in the data presentations that are less than 5 ppb indicate only a trace of pollutant in question and should not be construed to be absolute levels. In addition, the recorded quantity is simply random noise and averages tend toward zero. Thus, when concentrations are below the lower threshold of the analytical instruments they may appear as a zero entry in the data presentation which does not indicate absolute zero concentration.

All pollutant data (except for particulate data) is taken at the monitoring site in integer parts per billion (ppb) but is presented here in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )

assuming standard temperature and pressure of 25°C and 760 mmHg (1013.2 millibars), respectively. The scale factors required to convert  $\mu\text{g}/\text{m}^3$  at standard conditions back to ppb for the various pollutants are given in the following table.

POLLUTANT	TO CONVERT $\mu\text{g}/\text{m}^3$ AT 25°C AND 760 mmHg TO ppb MULTIPLY BY
$\text{NO}_x$	.534
NO	.534
$\text{NO}_2$	.534
$\text{SO}_2$	.384
$\text{H}_2\text{S}$	.723
THC	1.536
$\text{CH}_4$	1.536
CO	.877
$\text{O}_3$	.512

The units of the meteorological parameters are given in the table. It should be noted here that inside temperature is monitored and recorded as a functional part of the system but is not presented in this report.

Table III displays the monthly statistics for each monitoring station for the month. To insure statistical significance, and to reduce the possibility of introducing a bias in the presentation, averages are computed only when at least 50 percent of the samples are present, except for relative humidity and temperature, in which case 75 percent of the samples are required. If less than the required samples are present for a particular parameter, that entry will be blank. The number of

samples present for a particular channel is defined as the total possible number of five-minute samples for the averaging time less the computer downtime less the channel downtime less the channel calibration time. The averages in Table III are arithmetic averages with the following exceptions:

- Wind speed and wind direction are computed using a vector averaging technique where the wind speed is treated as the vector magnitude.
- Particulate averages are computed as the geometric mean.

Table IV displays the daily averages. Again, 50 percent of the five-minute samples are required in order to compute an average except for the cases of relative humidity and temperature which require 75 percent. A blank entry indicates an insufficient number of five-minute samples present for that day. Wind speed, wind direction, and particulate averages are computed the same way as described in Table III.

Table V presents the maximum daily five-minute average retained in the data base as well as the time of occurrence. A five-minute maximum average is printed if any samples are present for that day. Therefore, the maximum five-minute average for a channel which experienced considerable downtime or calibration time during the day in question may be misrepresentative of the maximum expected for that channel on that day.

Table VI indicates the five largest averages for various averaging times. The table shows the period of time covered by the average. Maxima are chosen so that time segments



are independent. The maximum averages reported are found using a 'sliding average' technique with the exception of the 24-hour particulate average, which is computed from midnight to midnight. For averaging times less than or equal to three hours, the sliding average is stepped one five-minute sample at a time. For longer averaging times the step size is twelve samples or one hour. For averaging times less than or equal to one hour 100 percent of the five-minute samples must be present to compute an average. Averaging times greater than one hour require 90 percent. Whether or not a sliding average is computed is solely determined by the number of samples present in that averaging time and is independent of daily and monthly averaging criteria.

To demonstrate the functional dependence of recorded parameters upon wind direction, Table VII shows pollutant concentration displayed in a bi-variate distribution with wind direction. The tables display the total number of five-minute samples occurring in each concentration and wind speed class. The mean concentration for all samples occurring in each wind class are also shown. This distribution demonstrates the dependence of high pollutant concentrations upon wind direction. Appendix A shows the stability wind rose diagrams.

The wind speed classifications used in Appendix A are based on the Beaufort wind scale classification system. This is a system of estimating and reporting wind speeds, invented in the early nineteenth century by Admiral Beaufort of the British Navy. It was originally based on the effects of various wind speeds on the amount of canvas that a full-rigged frigate of the period could carry, but has since been modified and modernized. In its present form for international meteorological use it equates: (a) Beaufort force (or Beaufort number); (b) wind speed;

(c) descriptive terms; and (d) visible effects upon land objects or the sea surface. One land adaptation is the NRM wind scale.

The six basic wind speed classifications used in the report are: 1-3 knots, 4-6 knots, 7-10 knots, 11-16 knots, 17-21 knots, and winds of greater than 21 knots. The following table is a complete description of the Beaufort Wind Scale, taken from Physical Climatology, by Helmut Landsberg, 1969.

BEAUFORT WIND SCALE FOR OBSERVATIONS AT LAND STATIONS

Force	Explanatory Title	Specification for Use	Corresponding Limits of Wind Speed at 10 meters ab.grd.				
			Mi/hr.	Knots	Km/hr.	M/sec.	Ft/sec.
0	Calm.....	Smoke rises vertically.....	<1	<1	<1	0.3	1
1	Light air.....	Direction of wind shown by smoke drift, but not by wind vanes.....	1-3	1-3	1-5	0.3-1.5	1-5
2	Light breeze....	Wind felt on face:leaves rustle:ordinary vane moved by wind.....	4-7	4-6	6-11	1.6-3.3	6-11
3	Gentle breeze....	Leaves and small twigs in constant motion;wind extends light flat.....	8-12	7-10	12-19	3.4-5.4	12-19
4	Moderate breeze..	Raises dust and loose paper:small branches are moved.....	13-18	11-16	20-28	5.5-7.9	19-26
5	Fresh breeze....	Small trees in leaf begin to sway:wavelets formed on inland waters.....	19-24	17-21	29-38	8.0-10.7	27-35
6	Strong breeze....	Large branches in motion:whistling heard in telegraph wires:umbrellas used with difficulty.....	25-31	22-27	39-49	10.8-13.8	36-45
7	High wind.....	Whole trees in motion:inconvenience felt when walking against wind.....	32-38	28-33	50-61	13.9-17.1	46-56
8	Fresh gale.....	Breaks twigs off trees:generally impedes progress.....	39-46	34-40	62-74	17.2-20.7	57-68
9	Strong gale.....	Slight structural damage occurs (chimney pots and slates removed).....	47-54	41-47	75-88	20.8-24.4	69-80
10	Whole gale.....	Seldom experienced inland:trees uprooted:considerable structural damage occurs...	55-63	48-55	89-102	24.5-28.4	81-93
11	Storm.....	Very rarely experienced:accompanied by widespread damage.....	64-72	56-63	103-117	28.5-32.6	94-106
12	Hurricane.....	.....	73-82	64-71	118-133	32.7-36.9	107-121
13	.....	.....	83-92	72-80	134-149	37.0-41.4	122-136
14	.....	.....	93-102	81-89	150-166	41.5-46.1	137-151
15	.....	.....	104-114	90-99	167-183	46.2-50.9	152-166
16	.....	.....	115-125	100-108	184-201	51.0-56.0	167-183
17	.....	.....	126-136	109-118	202-220	56.1-61.2	184-201

Source: Table 36 (p.119) in R.J. List (1951):Smithsonian Meteorological Tables:Smithsonian Miscell.Coll.Vol. 114.

Table VIII demonstrates the diurnal variation of various recorded parameters. Hourly averages are determined by arithmetically averaging five-minute samples, except for wind direction averages which are computed vectorially assuming unit vector magnitudes. Totals in the diurnal wind direction tables are vector averages of the columns and rows. For all parameters, a blank entry in the diurnal variation table indicates that less than half (i.e., less than 6) of the five-minute samples for that hour are present.

All times given in the data presentation are Mountain Standard Time.

To facilitate comparison of recorded concentrations to ambient air quality standards, the following regulations are presented.

TABLE II  
FEDERAL AND COLORADO STANDARDS

	<u>Primary</u>	<u>Secondary</u>	<u>Non-Designated Area</u>	<u>1973</u>	<u>Designated Area</u>	
					<u>1976</u>	<u>1980</u>
<u>Particulate</u>						
Annual G. M.	75 $\mu\text{g}/\text{m}^3$	60 $\mu\text{g}/\text{m}^3$	45 $\mu\text{g}/\text{m}^3$	70 $\mu\text{g}/\text{m}^3$	55 $\mu\text{g}/\text{m}^3$	45 $\mu\text{g}/\text{m}^3$
24 Hr. Max.*	260	150	150	200	180	150
<u>Sulfur Oxides</u>						
Annual	80(.03ppm)		--	60(.02ppm)	25(.009ppm)	10(.004ppm)
24 Hr. Max.*	365(.14ppm)		15(.005ppm)	300(.1ppm)	150(.05ppm)	55(.02ppm)
3 Hr. Max.*	--	1300(.5ppm)	--	--	--	--
1 Hr. Max.**	--	--	--	800(.28ppm)	300(.1ppm)	--
<u>Oxidant</u>						
1 Hr. Max.*	160(.08ppm)	160				
8 Hr. Max.*	--	--				
Annual	--	--				
<u>Hydrocarbons</u>						
3 Hr. Max.*	160(.24ppm)	160				
6-9 a.m.						
<u>Carbon Monoxide</u>						
Max. 8 Hrs.*	10000(9ppm)	10000				
Max. 1 Hr.*	40000(35ppm)	40000				
<u>Nitrogen Dioxide</u>						
Annual	100(.05ppm)	100				

Units are micrograms per cubic meter and ppm in parenthesis.

\*Not to be exceeded more than once per year.

\*\*Not to be exceeded more than once per month.



TABLE III  
AVERAGES FOR MARCH 1 THRU 31

TABLE III. AVERAGES FOR MAR 1 THRU 31

TO: 11:00 CLOUDS-1000 HOURS PER HOUR; WIND SPEEDS-1000 HOURS PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRESSURE-1000 HOURS; PRECIPITATION-INCHES

STATION	023	023	023	023
	.3	.2	.2	.2

STATION	023	023	023	023
	.1	10722.4	.3	.3

STATION	023	023	023	023
	1000.0	789.4	505.6	505.6

STATION	023	023	023	023
	570.9	78.9	783.9	783.9

STATION	023	023	023	023
	.05	6.5		

TABLE III. AVERAGES FOR MAR 1 FOR 51

UNIT: CONCENTRATIONS-GRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRECIPITATION-TOTAL INCHES; PRESSURE-MILLIBARS; PRECIPITATION-INCHES

WIND SPEED

STATION	( 0-FT )	( 50-FT )	( 100-FT )	( 200-FT )
210.6	3.9	4.5	5.4	

WIND DIRECTION

STATION	( 0-FT )	( 50-FT )	( 100-FT )	( 200-FT )
210.6	217.5	220.9	226.9	

RELATIVE HUMIDITY

STATION	( 0-FT )	( 50-FT )	( 100-FT )	( 200-FT )
11.2		74.1	69.6	

TEMPERATURE

STATION	( 0-FT )	( 50-FT )	( 100-FT )	( 200-FT )
26.4	21.1	27.8	26.4	

TABLE IV  
DAILY AVERAGES FOR MARCH 1 THRU 31



TABLE IV. DAILY AVERAGES FOR PER 1 THRU 31  
(COL 115: CUMULATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LAMBEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

DATE	SITE	023	023	NITRIC OXIDE (NO)	NITROGEN DIOXIDE (NO2)
3/1	.0	.0	.0	.0	.0
3/2	.0	.0	.0	.0	.0
3/3	.3	.0	.0	.3	.3
3/4	.3	.0	.0	.3	.3
3/5	1.0	1.0	.0	.0	.0
3/6	1.7	1.7	.0	.0	.0
3/7	.0	.0	.0	.0	.0
3/8	.0	.0	.0	.0	.0
3/9	.0	.0	.0	.0	.0
3/10	.0	.0	.0	.0	.0
3/11	.1	.0	.1	.1	.1
3/12	.0	.0	.0	.0	.0
3/13	2.1	.9	1.1	1.1	1.1
3/14	1.4	.0	.7	.7	.7
3/15	.0	.0	.0	.0	.0
3/16	.0	.0	.0	.0	.0
3/17	.0	.0	.0	.0	.0
3/18	.0	.0	.0	.0	.0
3/19	.0	.0	.0	.0	.0
3/20	.0	.0	.0	.0	.0
3/21	1.7	.0	1.7	1.7	1.7
3/22	1.5	.0	1.2	1.2	1.2
3/23	.1	.1	.0	.0	.0
3/24	.0	.0	.0	.0	.0
3/25	.0	.0	.0	.0	.0
3/26	.1	.1	.0	.0	.0
3/27	.4	.4	.0	.0	.0
3/28					
3/29					
3/30	.1	.1	.0	.0	.0
3/31	.0	.0	.0	.0	.0

TABLE IV. DAILY AVERAGES FOR BAR 1 THRU 31  
(TEMPERATURE-TEMPERATURES PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRAMETER-TOTAL LAZARUS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

HYDROGEN SULFIDE

PYRAMETER

BAROMETER (30.2)

023

023

023

DATE

3/1	.9	376.6	.0
3/2	.0	145.4	.0
3/3	.2	205.8	.0
3/4	.5	166.6	.0
3/5	.7	301.1	.0
3/6	1.1	457.5	.0
3/7	.0	440.7	.0
3/8	.7	395.3	.0
3/9	.1	226.6	.0
3/10	.0	126.1	.0

3/11	.0	416.6	.0
3/12	.0	476.8	.0
3/13	.0	267.8	.0
3/14	.0	249.6	.2
3/15	.0	508.0	.1
3/16	.0	471.7	.0
3/17	.0	109.6	.0
3/18	.4	217.6	.1
3/19	.0	460.1	.0
3/20	.1	315.0	.0

3/21	.6	496.6	.0
3/22	.0	505.0	.0
3/23	.1	514.7	1.5
3/24	.1	267.5	2.1
3/25	.6	540.5	.0
3/26	.0	285.8	.0
3/27	.6	522.5	.0
3/28	.2	550.0	.2
3/29	.0	176.8	.5
3/30	.0	474.1	3.0

3/31	.0	416.0	2.8
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TABLE IV. DAILY AVERAGES FOR MAR 1 THRU 31  
CUMULATIVE THERMUS-RECORDINGS PER CUBIC FEET; FLOW SPEED-PILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRESSURE-PILES; PRECIPITATION-INCHES

DATE	TOTAL METHANE HYDROCARBONS		METHANE		TOTAL METHANE HYDROCARBONS	
	SITE	023	023	023	SITE	023
3/1	1090.4	683.2				415.2
3/2	1105.6	708.9				396.9
3/3	1140.7	747.9				392.8
3/4	1100.2	763.3				342.9
3/5	1167.0	771.9				345.2
3/6	1112.4	752.3				360.1
3/7	1095.8	750.9				345.0
3/8	1061.1	739.5				341.9
3/9	1102.7	731.5				371.2
3/10	1099.8	772.7				326.8
3/11	1121.7	765.4				356.3
3/12	1105.9	766.6				358.1
3/13	1066.0	755.7				324.9
3/14	1092.1	764.1				314.0
3/15	1105.2	804.4				300.3
3/16	1062.3	778.8				301.5
3/17	1065.5	756.9				306.4
3/18	1064.6	776.2				287.8
3/19	1093.7	789.3				304.4
3/20	1043.7	800.0				248.7
3/21	1002.6	825.9				178.7
3/22	1000.5	822.3				182.2
3/23	1059.2	834.4				224.8
3/24	1121.7	835.3				286.5
3/25	1091.2	833.1				258.1
3/26	1123.3	859.5				263.6
3/27	1115.5	848.9				266.6
3/28	1056.3	865.9				190.6
3/29	1071.2	875.0				196.7
3/30	1122.5	876.0				246.4
3/31	1124.2	869.2				260.0

TABLE IV. DAILY AVERAGES FOR BAR 1 THRU 31  
(a) 113: CONCENTRATIONS PER CUBIC METRE; WIND SPEEDS-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRECIPITATION-TOTAL CUMULATIVE; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

DATE	SITE	OZONE		OZONE	BAROMETRIC PRESSURE
		025	023		
5/1				777.4	
5/2				775.1	
5/3				781.0	
5/4				786.4	
5/5				791.6	
5/6				793.8	
5/7				793.9	
5/8				790.0	
5/9				781.3	
5/10				778.3	
5/11	245.1	74.7		790.6	
5/12	256.4	78.4		787.0	
5/13	221.9	90.9		778.1	
5/14	215.5	77.4		782.4	
5/15	160.7	84.5		789.6	
5/16	186.0	90.2		782.4	
5/17	200.6	85.6		777.7	
5/18	531.7	85.2		782.7	
5/19		77.4		783.7	
5/20		82.3		783.4	
5/21		85.1		791.1	
5/22	532.9	81.5		791.0	
5/23	537.5	82.8		784.3	
5/24	527.6	91.9		779.2	
5/25	497.3	91.5		778.6	
5/26	466.5	75.9		783.6	
5/27	415.4	73.0		778.5	
5/28	470.1			776.8	
5/29	509.0	65.8		778.5	
5/30	434.9	75.4		787.1	
5/31	569.0	88.8		783.2	



TABLE IV. DAILY AVERAGES FOR MAR 1 THRU 31  
(UNIT: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PSYCHROMETER-TOTAL LAUGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

Date	TOTAL PRECIPITATION		PARTICULATE	
	511F	025	025	
3/1			5.0	
3/2	.05		4.0	
3/3	.15		1.0	
3/4			1.0	
3/5			4.0	
3/6			12.0	
3/7			5.0	
3/8			19.0	
3/9			8.0	
3/10			1.0	
3/11			4.0	
3/12			2.0	
3/13			28.0	
3/14			9.0	
3/15			2.0	
3/16			16.0	
3/17		.07	19.0	
3/18		.02		
3/19			16.0	
3/20			9.0	
3/21			7.0	
3/22			8.0	
3/23			12.0	
3/24			27.0	
3/25		.05		
3/26		.10		
3/27				
3/28		.05		
3/29				
3/30				
3/31				

TABLE IV. DAILY AVERAGES FOR DAY 1 THRU 31

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED

DATE	( 0-FT)	( 30-FT)	(100-FT)	(200-FT)
5/ 1	5.7	7.5	9.1	10.6
5/ 2	5.9	5.7	7.1	8.0
5/ 3	1.7	3.6	5.6	4.2
5/ 4	2.0	5.7	4.5	5.4
5/ 5	.8	.9	.7	.5
5/ 6	2.3	3.7	5.0	6.6
5/ 7	0.5	6.7	9.1	11.6
5/ 8	3.9	5.2	6.6	8.5
5/ 9	6.7	11.8	14.7	17.5
5/10	11.5	15.7	18.7	20.3
5/11	7.6	10.7	15.0	14.6
5/12	2.5	3.7	4.7	5.3
5/13	9.5	12.3	10.6	17.2
5/14	2.2	3.1	3.7	4.4
5/15	3.3	4.7	5.3	6.0
5/16	6.5	9.0	10.9	12.6
5/17	4.4	6.6	7.0	7.5
5/18	2.4	4.6	6.9	7.2
5/19	7.9	10.9	10.2	16.7
5/20	2.1	3.0	3.7	4.8
5/21	1.6	2.3	3.3	4.3
5/22	.9	2.0	2.9	3.8
5/23	5.6	8.3	10.7	11.7
5/24	6.7	13.1	16.0	18.2
5/25	10.6	15.5	15.7	17.7
5/26	1.3	1.8	2.2	2.5
5/27	3.4	4.7	5.3	6.4
5/28	6.9	8.1	9.3	10.6
5/29	4.5	6.2	7.6	8.7
5/30	1.0	2.4	3.1	3.3
5/31	6.0	7.9	9.3	10.4

TABLE IV. DAILY AVERAGES FOR YEAR 1 THRU 51  
(DUTIES: CONCENTRATIONS PER CUBIC FEET; WIND SPEEDS PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRESSURE-DEGREES TOTAL CARGOES; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND DIRECTION

DATE	WIND DIRECTION	( 30-F1)	(100-F1)	(200-F1)
3/1	168.0	186.5	186.3	191.9
3/2	255.6	294.2	302.8	305.1
3/3	505.0	306.6	315.4	320.6
3/4	326.4	329.5	339.6	340.0
3/5	284.6	275.5	286.7	291.1
3/6	174.8	173.3	184.5	197.1
3/7	165.5	161.3	189.2	199.8
3/8	200.1	196.7	196.8	205.9
3/9	190.9	193.5	197.1	201.5
3/10	337.4	337.6	343.2	344.0
3/11	346.0	349.1	350.1	357.2
3/12	157.2	152.4	151.3	159.1
3/13	169.9	192.4	197.2	203.5
3/14	268.5	264.3	280.4	286.9
3/15	166.7	168.2	188.9	193.3
3/16	169.1	169.1	193.2	197.2
3/17	243.6	244.5	253.1	254.6
3/18	251.7	276.3	280.6	284.3
3/19	202.3	204.1	206.8	216.5
3/20	504.5	306.2	312.8	313.7
3/21	205.5	200.4	200.3	212.3
3/22	152.2	144.5	159.6	173.7
3/23	192.1	191.4	189.3	193.7
3/24	130.4	135.9	189.4	193.9
3/25	196.2	192.0	197.5	201.3
3/26	505.3	302.7	313.9	321.1
3/27	193.8	196.6	202.4	209.5
3/28	271.6	272.1	279.1	281.6
3/29	255.6	253.5	253.8	243.2
3/30	173.9	165.6	161.5	179.4
3/31	224.5	219.6	222.3	233.4

TABLE IV. DAILY AVERAGES FOR JAN 1 THRU 31  
(COOLTS; CONCENTRATIONS PER CUBIC METERS; WIND SPEEDS-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRADIOMETER-TOTAL LAMBEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

RELATIVE HUMIDITY

DATE	( 3-FT )	( 50-FT )	( 100-FT )	( 200-FT )
5/1	65.0	66.6	66.6	64.4
5/2	96.7	99.7	99.7	96.0
5/3	92.6	96.7	96.7	93.7
5/4	92.6	97.2	97.2	91.6
5/5	84.6	90.0	90.0	84.8
5/6	70.6	75.4	75.4	68.7
5/7	55.5	58.7	58.7	53.5
5/8	46.6	46.9	46.9	45.4
5/9	65.5	46.2	46.2	45.5
5/10	94.0	98.1	98.1	91.1
5/11	83.6	88.6	88.6	82.2
5/12	60.5	73.0	73.0	66.9
5/13	48.9	52.7	52.7	49.2
5/14	62.7	89.3	89.3	84.5
5/15	66.5	69.1	69.1	63.3
5/16	46.8	46.4	46.4	45.3
5/17	85.5	89.3	89.3	81.4
5/18	62.1	86.6	86.6	80.2
5/19	64.5	68.7	68.7	62.7
5/20	71.6	79.5	79.5	75.6
5/21	67.5	72.3	72.3	68.9
5/22	55.9	57.9	57.9	54.4
5/23	47.1	48.5	48.5	45.0
5/24	48.7	52.1	52.1	49.4
5/25	78.9	63.7	63.7	79.8
5/26	90.1	90.1	90.1	94.0
5/27	71.6	75.2	75.2	71.5
5/28	77.5	63.5	63.5	79.7
5/29	75.6	79.2	79.2	
5/30	64.7	64.6	64.6	60.0
5/31	47.2	48.5	51.5	48.5



TABLE IV. DAILY AVERAGES FOR MAR 1 THRU 31  
(WINDS: CONCENTRATIONS PER CUBIC METER; WIND SPEEDS-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRECIPITATION-TOTAL, RAINFALL; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TEMPERATURE

DATE	( 0-FT )	( 50-FT )	( 100-FT )	( 200-FT )
3/ 1	51.1	29.7	29.6	27.7
3/ 2	21.5	19.2	18.7	16.7
3/ 3	20.6	19.2	19.3	16.6
3/ 4	17.5	16.3	16.3	14.5
3/ 5	16.7	15.6	17.3	15.3
3/ 6	25.6	24.7	25.8	24.2
3/ 7	55.2	35.4	35.9	35.1
3/ 8	58.9	39.7	40.4	39.3
3/ 9	40.0	40.3	40.8	39.6
3/10	23.4	20.8	20.4	18.7
3/11	21.7	19.8	19.9	17.7
3/12	24.1	23.4	24.1	22.7
3/13	36.9	36.5	36.9	35.5
3/14	22.0	20.8	20.6	18.9
3/15	25.2	24.3	25.0	23.7
3/16	37.1	37.1	37.9	36.9
3/17	29.1	27.7	27.5	25.9
3/18	25.0	21.1	20.6	19.6
3/19	26.1	20.9	25.5	24.2
3/20	27.5	25.6	25.0	23.1
3/21	27.1	26.2	26.3	25.1
3/22	55.8	56.2	56.6	55.8
3/23	42.9	43.6	44.6	43.9
3/24	43.2	43.5	43.5	42.4
3/25	55.3	33.8	55.3	31.8
3/26	50.4	50.2	36.0	28.1
3/27	55.9	55.9	55.9	54.6
3/28	20.1	17.4	17.1	15.9
3/29	16.1	14.1	14.9	13.1
3/30	20.7	22.1	22.1	21.0
3/31	31.6	33.3	32.7	32.5

TABLE V  
MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF  
OCCURRENCE FOR MARCH 1 THRU 31

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
UNITS: CUMULATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRESSURE-TEN-TOTAL LABELS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES

nitrogen oxides (ppm)

DATE	SITE	025
3/1	5.6(14:45)	
3/2	1.9( 4:20)	
3/3	5.6(14:55)	
3/4	1.9( 0:50)	
3/5	9.4(14:55)	
3/6	11.2(13:05)	
3/7	.0( 0:00)	
3/8	.0( 0:00)	
3/9	.0( 0:00)	
3/10	1.9(20:00)	
3/11	1.9( 2:00)	
3/12	.0( 0:00)	
3/13	9.4(21:50)	
3/14	11.2( 3:30)	
3/15	.0( 0:00)	
3/16	.0( 0:00)	
3/17	.0( 0:00)	
3/18	.0( 0:00)	
3/19	.0( 0:00)	
3/20	.0( 0:00)	
3/21	5.7(10:00)	
3/22	5.6(21:00)	
3/23	5.6( 1:10)	
3/24	5.7( 6:56)	
3/25	5.7(11:15)	
3/26	7.5(20:10)	
3/27	11.2( 6:55)	
3/28	7.5( 1:00)	
3/29	1.9(18:30)	
3/30	7.5( 9:10)	
3/31	1.9(11:15)	

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRECIPITATION-TOTAL INCHES; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NITRIC OXIDE (NO)

SITE 025

DATE

3/1 5.6(14:45)  
3/2 1.9(4:20)  
3/3 .0(0:00)  
3/4 .0(0:00)  
3/5 9.5(14:55)  
3/6 11.2(15:05)  
3/7 .0(0:00)  
3/8 .0(0:00)  
3/9 .0(0:00)  
3/10 .0(0:00)

3/11 .0(0:00)  
3/12 .0(0:00)  
3/13 9.4(21:50)  
3/14 11.2(5:30)  
3/15 .0(0:00)  
3/16 .0(0:00)  
3/17 .0(0:00)  
3/18 .0(0:00)  
3/19 .0(0:00)  
3/20 .0(0:00)

3/21 1.9(10:00)  
3/22 5.6(21:40)  
3/23 5.6(1:10)  
3/24 5.7(0:50)  
3/25 5.7(11:15)  
3/26 7.5(20:10)  
3/27 11.2(8:55)  
3/28 7.5(1:40)  
3/29 1.9(10:30)  
3/30 7.5(9:10)

3/31 1.5(11:15)



TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
(UNIT IS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NITROGEN DIOXIDE (NO2)

STATION 023

DATE

3/1 .00 (0:00)  
3/2 1.9 (13:45)  
3/3 5.6 (14:55)  
3/4 1.9 (0:50)  
3/5 .00 (0:00)  
3/6 .00 (0:05)  
3/7 .00 (0:00)  
3/8 .00 (0:00)  
3/9 .00 (0:00)  
3/10 1.9 (20:20)

3/11 1.9 (2:00)  
3/12 .00 (0:00)  
3/13 5.6 (15:20)  
3/14 5.8 (5:05)  
3/15 .00 (0:00)  
3/16 .00 (0:00)  
3/17 .00 (0:00)  
3/18 .00 (0:00)  
3/19 .00 (0:00)  
3/20 .00 (0:00)

3/21 5.7 (10:05)  
3/22 5.7 (0:00)  
3/23 .00 (0:00)  
3/24 1.9 (15:20)  
3/25 .00 (0:00)  
3/26 .00 (0:00)  
3/27 .00 (0:00)  
3/28 .00 (0:05)  
3/29 .00 (18:50)  
3/30 .00 (0:00)

3/31 .00 (0:00)

# RADIANT CORPORATION

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
(NOTES: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

SULFUR DIOXIDE (SO2)

SITE 025

DATE

3/1 00 (02:00)  
3/2 00 (02:00)  
3/3 2.0 (10:20)  
3/4 2.0 (02:30)  
3/5 5.2 (17:20)  
3/6 5.2 (12:05)  
3/7 00 (02:00)  
3/8 55.9 (9:00)  
3/9 7.0 (5:50)  
3/10 00 (02:00)

3/11 2.0 (25:15)  
3/12 2.0 (2:25)  
3/13 2.0 (13:55)  
3/14 2.0 (9:00)  
3/15 00 (02:00)  
3/16 00 (02:00)  
3/17 00 (02:00)  
3/18 100.2 (15:55)  
3/19 2.0 (02:15)  
3/20 2.5 (7:20)

3/21 00 (02:00)  
3/22 2.0 (10:20)  
3/23 25.4 (11:20)  
3/24 00 (02:00)  
3/25 00 (02:00)  
3/26 2.0 (17:50)  
3/27 2.0 (3:50)  
3/28 49.5 (10:55)  
3/29 00 (02:00)  
3/30 00 (02:00)

3/31 00 (02:00)

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
 (UNIT: TEMPERATURES-MICROGRAMS PER CUBIC METER; WIND SPEEDS-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PYRAMETER-TOTAL CLOUDS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

## PYRAMETER

DATE SITE 023

3/1 5.20(12:15)  
 3/2 2.55(10:10)  
 3/3 5.70(10:15)  
 3/4 4.45(14:45)  
 3/5 6.75(13:00)  
 3/6 5.55(12:05)  
 3/7 5.45(12:25)  
 3/8 5.45(12:35)  
 3/9 3.60(13:20)  
 3/10 1.85(13:10)

3/11 0.20(13:10)  
 3/12 5.85(12:40)  
 3/13 6.10(12:50)  
 3/14 5.50(10:45)  
 3/15 0.55(13:00)  
 3/16 5.75(12:05)  
 3/17 5.80(13:55)  
 3/18 7.55(13:05)  
 3/19 7.00(13:50)  
 3/20 6.75(13:20)

3/21 6.20(11:50)  
 3/22 5.85(12:00)  
 3/23 5.90(12:00)  
 3/24 0.65(12:40)  
 3/25 6.20(12:00)  
 3/26 6.10(14:05)  
 3/27 5.95(11:55)  
 3/28 7.00(13:35)  
 3/29 5.55(12:55)  
 3/30 7.80(11:55)

3/31 6.10(11:10)

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
(WINDS: COEFFICIENTS-DEGREES PER HOUR; WIND SPEEDS-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRECIPITATION-TOTAL, LINEAL, LARGEST; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

HYDROLOGICAL BULLETIN

STATION 023

DATE

3/1 00 (0:00)  
3/2 00 (0:00)  
3/3 00 (0:00)  
3/4 00 (0:00)  
3/5 00 (0:00)  
3/6 00 (0:00)  
3/7 00 (0:00)  
3/8 00 (0:00)  
3/9 00 (0:00)  
3/10 00 (0:00)

3/11 00 (0:00)  
3/12 00 (0:00)  
3/13 00 (0:00)  
3/14 00 (0:00)  
3/15 00 (0:00)  
3/16 00 (0:00)  
3/17 00 (0:00)  
3/18 00 (0:00)  
3/19 00 (0:00)  
3/20 00 (0:00)

3/21 00 (0:00)  
3/22 00 (0:00)  
3/23 00 (0:00)  
3/24 00 (0:00)  
3/25 00 (0:00)  
3/26 00 (0:00)  
3/27 00 (0:00)  
3/28 00 (0:00)  
3/29 00 (0:00)  
3/30 00 (0:00)

3/31 00 (0:00)



TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
 WINDS: DIRECTION-DEGREES PER HOUR; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PRESSURE-TOTAL BARRELS; PRESSURE-DEGREES; PRECIPITATION-INCHES

## TOTAL HYDROCARBONS

SITE 023

DATE

3/1	1208.7 ( 9:45)
3/2	1205.6 (20:05)
3/3	1510.0 (23:30)
3/4	1506.7 ( 9:40)
3/5	1507.6 (10:55)
3/6	1651.0 ( 4:15)
3/7	1220.5 ( 7:05)
3/8	1161.1 ( 7:50)
3/9	1921.1 (11:55)
3/10	1556.4 (11:15)
3/11	1524.6 ( 3:25)
3/12	1249.0 (12:50)
3/13	1216.5 (15:25)
3/14	1091.9 (11:50)
3/15	1258.2 ( 6:25)
3/16	1107.0 ( 9:25)
3/17	1172.2 (14:00)
3/18	1126.0 ( 9:10)
3/19	1128.1 (11:05)
3/20	1173.5 (13:40)
3/21	1559.6 (13:10)
3/22	1107.1 (20:55)
3/23	1100.5 ( 6:50)
3/24	1555.2 (13:10)
3/25	1109.6 (15:00)
3/26	1255.4 (11:10)
3/27	1216.5 ( 9:20)
3/28	1161.5 (16:20)
3/29	1650.6 (15:45)
3/30	1256.2 (11:20)
3/31	1205.7 ( 9:50)

# RADIAN CORPORATION

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
 WINDS: CUMULATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PRESSURE-TEN-TOTAL BAROMETERS; PRECIPITATION-INCHES

MEMPHIS

SITE 023

DATE

3/1	1040.0(22:25)
3/2	1121.4(4:00)
3/3	905.5(10:50)
3/4	927.6(9:05)
3/5	875.9(11:00)
3/6	782.1(9:20)
3/7	777.6(1:50)
3/8	776.6(18:15)
3/9	767.8(18:55)
3/10	842.7(7:55)
3/11	861.6(2:40)
3/12	852.5(1:20)
3/13	1051.1(15:05)
3/14	915.0(2:25)
3/15	859.4(9:00)
3/16	866.4(16:00)
3/17	1050.8(17:00)
3/18	858.1(20:10)
3/19	610.6(15:05)
3/20	960.5(5:50)
3/21	1121.9(10:10)
3/22	859.6(11:25)
3/23	855.7(11:00)
3/24	855.8(17:25)
3/25	857.6(23:05)
3/26	888.9(11:50)
3/27	877.3(5:35)
3/28	929.1(10:55)
3/29	1200.6(16:10)
3/30	907.8(11:10)
3/31	895.2(11:35)



TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
(UNIT: CUMULATIVE TONNES PER CUBIC METRE; ALSO SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; ALSO WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRESSURE-TOTAL BAROMETRIC; PRESSURE-CELLULAR; PRECIPITATION-INCHES)

UNITED STATES HYDROGRAPHIC SURVEY

SHIP 025

DATE

3/1 051.9(10:15)  
3/2 575.1(17:15)  
3/3 500.1(25:30)  
3/4 519.0( 5:50)  
3/5 636.5(10:55)  
3/6 1057.6( 4:15)  
3/7 500.7(11:00)  
3/8 466.5(10:00)  
3/9 1216.5(11:55)  
3/10 501.6(11:15)

3/11 528.1( 5:25)  
3/12 472.8( 8:45)  
3/13 489.7(13:25)  
3/14 458.4(11:30)  
3/15 459.8( 6:25)  
3/16 424.0( 8:55)  
3/17 466.5(14:00)  
3/18 596.6(11:25)  
3/19 596.0(12:25)  
3/20 569.2(15:40)

3/21 567.0(13:10)  
3/22 282.0(20:55)  
3/23 515.2( 6:50)  
3/24 525.6(13:10)  
3/25 559.5(15:00)  
3/26 559.5(11:10)  
3/27 559.9( 9:20)  
3/28 522.5( 6:05)  
3/29 505.4(15:45)  
3/30 562.7(12:50)

3/31 575.3( 9:50)

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
(UNITS: CONCENTRATIONS-PICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRESSURE-METER-TOTAL LAMBERTS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

CAROL WOODLOT

SITE 025

Date

5/1 022.6(11:00)

5/2  
5/3  
5/4  
5/5  
5/6  
5/7  
5/8  
5/9  
5/10

5/11 200.7(12:00)  
5/12 200.4( 0:50)  
5/13 202.1(14:20)  
5/14 259.6( 2:50)  
5/15 227.9(15:00)  
5/16 307.7(16:40)  
5/17 313.9(16:55)  
5/18 352.6(15:40)  
5/19 372.7( 0:00)  
5/20

5/21 575.5(15:55)  
5/22 597.1(10:45)  
5/23 1200.9(11:00)  
5/24 590.1(16:05)  
5/25 700.9(12:00)  
5/26 525.1( 0:50)  
5/27 459.5( 1:00)  
5/28 603.0(15:05)  
5/29 2632.0(16:00)  
5/30 565.7(15:40)

5/31 025.1(11:50)



TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND LIST OF OCCURRENCE FOR MAR 1 THRU 31  
(UNITS: TEMPERATURES-DIGREES PER CUBIC FEET; WIND SPEEDS-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRECIPITATION-TOTAL LARGES; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

02004

SITE 925

DATE

3/1 91.8(14:30)  
3/2 89.0( 2:16)  
3/3 82.1(14:56)  
3/4 76.2(16:20)  
3/5 86.0(13:05)  
3/6 89.9(11:05)  
3/7 86.0(13:16)  
3/8 82.1(13:45)  
3/9 80.1(14:50)  
3/10 82.1(15:50)

3/11 80.1( 2:25)  
3/12 91.8(12:00)  
3/13 103.5(16:20)  
3/14 91.8(16:10)  
3/15 99.6(15:56)  
3/16 99.6(14:50)  
3/17 65.7( 0:35)  
3/18 95.8( 5:30)  
3/19 82.1( 6:15)  
3/20 93.8(11:10)

3/21 91.8( 9:05)  
3/22 67.9( 7:55)  
3/23 65.7(16:55)  
3/24 107.5(15:55)  
3/25 105.5( 1:00)  
3/26 87.9( 0:15)  
3/27 91.8(17:55)  
3/28 265.7(15:15)  
3/29 80.1(16:35)  
3/30 95.7(16:25)

3/31 103.5( 9:55)

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAX 1 THRU 31  
(UNIT 5: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOETER-TOTAL RADIATION; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

BAROMETRIC PRESSURE

DATE	SITE	025
5/1	785.0	(0:00)
5/2	796.0	(21:50)
5/3	785.0	(21:50)
5/4	790.0	(22:15)
5/5	785.0	(11:15)
5/6	785.0	(21:05)
5/7	790.0	(9:20)
5/8	792.0	(6:00)
5/9	789.0	(0:00)
5/10	787.0	(23:26)
5/11	792.0	(8:55)
5/12	791.0	(0:00)
5/13	792.0	(0:00)
5/14	787.0	(20:55)
5/15	791.0	(8:15)
5/16	789.0	(0:00)
5/17	785.0	(23:50)
5/18	786.0	(23:55)
5/19	786.0	(0:00)
5/20	786.0	(23:50)
5/21	793.0	(9:25)
5/22	793.0	(6:55)
5/23	789.0	(0:00)
5/24	781.0	(0:00)
5/25	782.0	(19:55)
5/26	785.0	(0:55)
5/27	789.0	(0:00)
5/28	775.0	(19:35)
5/29	785.0	(23:10)
5/30	790.0	(9:15)
5/31	787.0	(0:00)

TABLE 7. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
(UNIT: TEMPERATURES-DEGREES FAHRENHEIT; WIND SPEEDS-MILES PER HOUR;  
PRECIPITATION-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRESSURE-DEGREES FAHRENHEIT; PRESSURE-DEGREES FAHRENHEIT; PRECIPITATION-INCHES)

TOTAL PRECIPITATION

DATE

TIME

025

3/1 .02(22:45)  
3/2 .01(0:05)

3/3  
3/4  
3/5  
3/6  
3/7  
3/8  
3/9  
3/10

3/11  
3/12  
3/13  
3/14  
3/15  
3/16  
3/17 .02(11:25)  
3/18 .01(6:56)  
3/19  
3/20

3/21  
3/22  
3/23  
3/24  
3/25 .01(7:55)  
3/26 .02(2:45)  
3/27  
3/28 .01(1:20)  
3/29  
3/30  
3/31

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
(DAILY CONCENTRATIONS-POUNDS PER CUBIC FEET; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRECIPITATION-TOTAL, CLOUDS; PRESSURE-INCHES; PRECIPITATION-INCHES)

SITE 025		WIND SPEED		WIND DIRECTION				
DATE	( 3-FT)	( 30-FT)	( 100-FT)	( 200-FT)				
3/1	26.0	190.0(10:10)	31.0	192.0(10:10)	35.0	195.0(10:10)	58.0	198.0(10:10)
3/2	11.0	512.0(14:05)	15.0	507.0(14:05)	10.0	297.0(13:05)	17.0	509.0(13:55)
3/3	7.0	503.0(10:45)	9.0	500.0(12:55)	10.0	309.0(10:45)	10.0	309.0(10:45)
3/4	11.0	50.0(14:40)	15.0	1.0(14:40)	17.0	5.0(14:40)	17.0	1.0(14:40)
3/5	7.0	521.0(12:00)	9.0	518.0(12:00)	10.0	525.0(12:00)	9.0	331.0(10:50)
3/6	9.0	179.0(18:25)	13.0	178.0(18:25)	18.0	178.0(18:25)	20.0	183.0(18:25)
3/7	17.0	216.0(14:40)	22.0	214.0(14:40)	25.0	215.0(14:40)	26.0	200.0(10:55)
3/8	19.0	191.0( 9:45)	24.0	192.0( 9:45)	28.0	195.0( 9:45)	32.0	200.0( 8:05)
3/9	29.0	194.0(10:40)	26.0	194.0(11:20)	31.0	185.0( 6:45)	37.0	189.0( 6:45)
3/10	25.0	336.0(14:20)	31.0	340.0(14:25)	36.0	340.0(14:25)	39.0	346.0(14:25)
3/11	17.0	509.0(11:55)	21.0	547.0(11:00)	24.0	551.0(11:00)	25.0	14.0( 2:20)
3/12	11.0	181.0(16:55)	15.0	160.0(16:10)	10.0	128.0(21:40)	16.0	175.0(16:10)
3/13	20.0	194.0(15:20)	31.0	190.0(15:20)	34.0	200.0(12:50)	36.0	203.0(13:20)
3/14	10.0	268.0(14:50)	14.0	268.0(14:50)	17.0	295.0(14:30)	17.0	292.0(14:50)
3/15	17.0	192.0(11:15)	20.0	187.0(11:15)	21.0	197.0(11:05)	23.0	200.0(11:05)
3/16	15.0	200.0(10:35)	24.0	199.0(10:35)	27.0	206.0(10:35)	30.0	207.0(10:35)
3/17	10.0	210.0( 0:35)	21.0	217.0( 0:35)	26.0	222.0( 0:35)	29.0	226.0( 0:35)
3/18	19.0	311.0(11:15)	21.0	256.0(11:45)	20.0	264.0(11:45)	25.0	268.0(11:45)
3/19	17.0	215.0(14:05)	21.0	218.0(14:05)	25.0	206.0(17:25)	27.0	217.0(17:00)
3/20	19.0	501.0( 4:05)	25.0	297.0( 4:05)	30.0	502.0( 4:05)	32.0	304.0( 4:05)
3/21	10.0	196.0(14:55)	15.0	201.0(14:55)	15.0	209.0(14:55)	18.0	202.0(19:40)
3/22	0.0	100.0(16:20)	10.0	175.0(19:10)	12.0	163.0(20:10)	13.0	200.0( 4:20)
3/23	17.0	210.0(14:20)	22.0	220.0(14:20)	26.0	221.0(14:20)	27.0	223.0(14:20)
3/24	20.0	172.0(11:10)	26.0	174.0(20:45)	29.0	179.0(20:45)	33.0	184.0(23:55)
3/25	24.0	175.0( 9:20)	30.0	176.0( 0:20)	35.0	198.0( 5:55)	40.0	201.0( 5:35)
3/26	0.0	509.0(11:10)	10.0	505.0(10:50)	11.0	515.0(10:50)	13.0	326.0(11:10)
3/27	12.0	197.0(17:55)	15.0	195.0(17:55)	17.0	194.0(20:45)	24.0	207.0(19:55)
3/28	22.0	292.0( 1:05)	29.0	268.0( 1:05)	34.0	292.0( 1:05)	35.0	295.0( 1:05)
3/29	15.0	225.0(13:00)	19.0	231.0(13:00)	22.0	236.0(13:00)	24.0	246.0(13:00)
3/30	10.0	172.0(14:30)	14.0	159.0(15:25)	15.0	162.0(14:50)	16.0	168.0(14:50)
3/31	19.0	255.0(15:10)	23.0	222.0(11:05)	26.0	240.0(15:10)	28.0	248.0(15:10)



TABLE V. MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
 (1) TIME OF OCCURRENCE FOR 5-MINUTE AVERAGES PER CUBIC FEET; (2) WIND SPEED-MILES PER HOUR;  
 (3) TEMPERATURE-DEGREES FAHRENHEIT; (4) WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 (5) PRESSURE-DEGREES; (6) RELATIVE HUMIDITY; (7) PRECIPITATION-INCHES)

RELATIVE HUMIDITY

DATE	( 0-FT )	( 30-FT )	( 100-FT )	( 200-FT )
3/1	100.0(22:10)		100.0(20:55)	100.0(23:05)
3/2	100.0( 0:00)		100.0( 0:00)	100.0( 0:00)
3/3	100.0( 0:00)		100.0( 0:00)	100.0(22:25)
3/4	100.0( 4:50)		100.0( 0:00)	99.0(23:25)
3/5	99.0( 1:50)		100.0( 0:00)	100.0( 3:10)
3/6	85.0( 0:00)		88.0( 1:50)	81.0( 2:05)
3/7	65.0( 2:50)		70.0( 2:55)	63.0( 0:00)
3/8	57.0(22:05)		57.0( 0:00)	52.0( 0:00)
3/9	62.0(23:55)		67.0(23:55)	68.0(23:55)
3/10	100.0(20:05)		100.0( 2:20)	98.0(19:25)
3/11	100.0( 2:00)		100.0( 0:00)	97.0( 3:10)
3/12	91.0( 1:45)		94.0( 4:05)	86.0( 2:15)
3/13	65.0(23:45)		70.0(23:25)	68.0(23:25)
3/14	96.0(23:20)		100.0(19:05)	98.0(23:50)
3/15	100.0( 1:20)		100.0( 0:00)	99.0( 0:15)
3/16	57.0( 0:45)		56.0( 2:45)	50.0( 2:45)
3/17	100.0( 0:25)		100.0( 6:40)	99.0( 8:00)
3/18	100.0( 1:50)		100.0( 0:00)	99.0( 7:15)
3/19	86.0( 0:05)		88.0( 5:45)	80.0( 5:10)
3/20	91.0( 6:50)		100.0( 6:15)	98.0( 6:45)
3/21	95.0( 5:50)		86.0( 1:15)	84.0( 1:15)
3/22	72.0( 4:50)		71.0( 1:55)	68.0( 2:40)
3/23	56.0( 1:45)		58.6( 2:00)	51.0( 1:50)
3/24	59.0( 0:55)		55.0( 6:15)	53.0(11:00)
3/25	100.0( 8:35)		100.0( 6:20)	100.0( 7:35)
3/26	100.0( 0:00)		100.0( 0:00)	100.0( 0:00)
3/27	95.0( 6:00)		97.0( 7:00)	90.0( 1:30)
3/28	100.0( 1:00)		100.0( 0:05)	100.0( 0:10)
3/29	80.0( 1:20)	75.0(20:50)	85.0( 5:45)	79.0( 0:00)
3/30	86.0( 1:50)	74.0( 0:55)	80.0( 0:45)	74.0( 0:50)
3/31	85.0( 0:20)	64.0( 2:00)	62.0( 1:55)	50.0( 1:50)

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAR 1 THRU 31  
(00:15:00) FIVE MINUTE AVERAGES PER HOUR; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PRECIPITATION-TOTAL (AUGUST); PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TEMPERATURE

DATE	( 00:15 )	( 30:15 )	( 10:00 )	( 20:00 )
3/1	45.0(11:40)	59.0(11:40)	59.0(14:55)	57.0(11:40)
3/2	20.0(15:50)	23.0(12:40)	22.0(12:45)	22.0(13:05)
3/3	20.0(10:55)	25.0(13:50)	24.0(13:50)	21.0(14:05)
3/4	20.0(14:00)	23.0(14:25)	21.0(14:10)	19.0(13:30)
3/5	20.0(14:20)	26.0(15:45)	25.0(15:20)	22.0(14:20)
3/6	50.0(15:50)	50.0(15:55)	50.0(17:00)	54.0(16:40)
3/7	47.0(15:55)	45.0(14:25)	43.0(14:15)	45.0(14:45)
3/8	51.0(13:15)	49.0(12:45)	48.0(12:45)	48.0(12:50)
3/9	40.0(13:40)	47.0(13:35)	46.0(13:25)	46.0(13:55)
3/10	55.0( 0:00)	55.0( 0:00)	54.0( 0:00)	52.0( 0:00)
3/11	51.0(15:55)	27.0(15:55)	26.0(15:10)	23.0(13:10)
3/12	30.0(14:50)	50.0(14:55)	35.0(16:00)	35.0(14:50)
3/13	40.0(13:50)	45.0(12:55)	45.0(13:50)	45.0(13:50)
3/14	50.0(11:15)	20.0( 0:00)	27.0( 0:00)	25.0( 0:00)
3/15	40.0(16:10)	37.0(15:50)	36.0(16:00)	34.0(16:00)
3/16	51.0(15:00)	48.0(15:15)	47.0(15:15)	46.0(16:20)
3/17	40.0( 0:35)	39.0( 0:35)	39.0( 0:35)	37.0( 0:50)
3/18	51.0(17:10)	20.0(16:40)	27.0(16:45)	28.0(16:50)
3/19	37.0(14:40)	54.0(15:50)	54.0(16:15)	54.0(16:25)
3/20	50.0( 1:20)	55.0( 0:00)	55.0( 0:00)	51.0( 0:00)
3/21	42.0(16:55)	50.0(16:05)	50.0(16:40)	36.0(17:00)
3/22	51.0(16:25)	40.0(15:10)	47.0(16:00)	40.0(16:00)
3/23	50.0(12:50)	50.0(13:55)	53.0(14:15)	52.0(14:20)
3/24	52.0(15:20)	50.0(15:20)	40.0(14:50)	40.0(14:45)
3/25	40.0( 1:25)	15.0( 0:00)	44.0( 0:00)	42.0( 0:00)
3/26	42.0(16:50)	40.0(16:50)	50.0(16:20)	57.0(16:30)
3/27	51.0(15:50)	40.0(14:45)	47.0(15:50)	45.0(15:55)
3/28	52.0( 0:30)	51.0( 0:30)	51.0( 0:30)	20.0( 0:05)
3/29	25.0(16:10)	22.0(13:45)	21.0(13:45)	21.0(16:55)
3/30	50.0(16:00)	53.0(16:30)	52.0(16:45)	51.0(17:35)
3/31	45.0(15:20)	41.0(14:15)	40.0(16:05)	41.0(16:55)

TABLE VI  
THE FIVE MAXIMUM INDEPENDENT SLIDING  
AVERAGES FOR MARCH 1 THRU 31

TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAR 1-31

(WITH ASSOCIATED FIVE SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

NITROGEN DIOXIDE (VS: WD)  
1-HOUR

Site	023	
1.	5/13(20:50-21:50)	4.51 9:319)
2.	5/14( 5:25- 6:25)	4.51 3:245)
3.	5/14( 5:00- 6:00)	4.41 5:214)
4.	5/13(13:05-14:05)	4.2(25:19/)
5.	3/14( 6:55- 7:55)	4.21 1: 21)

NITRIC OXIDE (VS: WD)  
1-HOUR

Site	023	
1.	5/14( 3:00- 4:00)	5.01 3:238)
2.	5/13(20:50-21:50)	5.3( 9:319)
3.	5/14( 0:50- 1:50)	2.8( 4:229)
4.	5/14( 5:05- 6:05)	2.5( 5:212)
5.	3/13(16:05-17:05)	2.3(20:205)

NITROGEN DIOXIDE (VS: WD)  
1-HOUR

Site	023	
1.	5/21(0:00-11:00)	5.71 3: 8)
2.	5/14( 5:05- 7:05)	5.6( 1: 32)
3.	3/21(12:25-13:25)	5.41 7:255)
4.	3/22( 6:35- 9:35)	5.4( 2:152)
5.	5/21(11:05-12:05)	5.31 4:145)



TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAR 1-31

(WITH ASSOCIATED ALOD SPEED AND WIND DIRECTION)

UNIT: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
ALOD DIRECTION-DEGREES WITH RESPECT TO THE NORTH

SULFUR DIOXIDE (WS: WD)  
1-HOUR

DATE	023	
1.	3/ 6( 6:30- 9:30)	11.5(19:19)
2.	3/18(15:05-16:05)	8.9( 7:27)
3.	3/28(10:20-11:20)	4.1(14:25)
4.	3/ 6( 4:15- 5:15)	3.0( 5: 9)
5.	3/ 5(25:55- 0:55)	2.6( 2: 6)

SULFUR DIOXIDE (WS: WD)  
5-HOUR

DATE	023	
1.	3/ 6( 6:15-11:15)	4.5(20:19)
2.	3/18(14:50-17:50)	3.4( 9:27)
3.	3/ 6( 5:50- 6:50)	2.2( 4:10)
4.	3/ 5(21:15- 0:15)	2.1( 1:11)
5.	3/ 6( 7:55-10:55)	1.9( 4:13)

SULFUR DIOXIDE (WS: WD)  
24-HOUR

DATE	023	
1.	3/ 5- 3/ 6(14:00)	1.7( 4:17)
2.	3/ 6- 3/ 7( 7:00)	.8(10:19)
3.	3/18- 3/19( 6:00)	.5( 7:25)
4.	3/ 3- 3/ 4(11:00)	.5( 2: 1)
5.	3/27- 3/28( 0:00)	.2( 9:26)

TABLE VI. FIVE MAXIMUM INDEPENDENT SIGHTING AVERAGES FOR BAR 1-31  
(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)  
UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

HYDROGEN SULFIDE (WS: WD)  
1-HOUR

025

1.	5/51 ( 5:20- 6:20)	7.11	1: 56]
2.	5/51 ( 1:25- 2:25)	1.01	2: 97]
3.	5/50 ( 2:20- 2:50)	6.91	2:19]
4.	5/50 ( 2:50- 3:50)	6.91	4:22]
5.	5/51 ( 6:20- 7:20)	6.91	1:16]

TOTAL HYDROCARBONS (WS: WD)  
5-HOUR (6-9AS)

025

1.	5/51 ( 6:00- 7:00)	1171.91	5:15]
2.	5/27 ( 6:00- 7:00)	1153.91	1: 05]
3.	5/ 51 ( 6:00- 7:00)	1129.01	2:29]
4.	5/51 ( 6:00- 7:00)	1127.21	1:50]
5.	5/ 51 ( 6:00- 7:00)	1129.21	1:15]

PERCENTAGE BLENDED EACH OTHER 24 TIMES AT SITE 025

SEQUENCE OF SIGHTING FACILITIES 24 TIMES AT SITE 025

TABLE VI. THE FIVE MAXIMUM AVERAGES FOR PAR 1-31

(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNIT 15: CALCULATIONS--(COEFFICIENTS PER CUBIC FEET; WIND SPEED--MILES PER HOUR;  
WIND DIRECTION--DEGREES WITH RESPECT TO THE NORTH)

DELTA 1-15: WDI  
5-HOUR (6-9 AM.)

SITE 023

1. 3/31( 0:00- 9:00) 3/2.21 3:1501
2. 3/29( 0:00- 9:00) 361.51 4:2071
3. 3/26( 0:00- 9:00) 457.81 2:1261
4. 3/27( 0:00- 9:00) 456.71 1: 651
5. 3/25( 0:00- 9:00) 331.51 10:1971

PRIMARY STATION AND EXCEEDED 24 TIMES AT SITE 023

SECONDARY STATION AND EXCEEDED 24 TIMES AT SITE 023

TABLE VI. THE FIVE MAXIMUM AVERAGES FOR DIAK 1-31  
(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)  
NOTES: CORRELATION COEFFICIENTS PER HOUR: WIND SPEED-MILES PER HOUR:  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

WIND-SPEED IN MPH. HYDROCARBONS (P.S. 70)  
5-HOUR (6-9 AM)

025

SITE

1.	5/ 10	6:00-	9:00)	405.31	8:1411
2.	3/ 50	6:00-	9:00)	302.31	2:2911
3.	3/ 60	6:00-	9:00)	379.41	3: 701
4.	3/ 40	6:00-	9:00)	371.91	0: 1
5.	3/ 20	6:00-	9:00)	370.01	5:5061

PERIODS OF STAGNANT FACILITIES 20 TIMES AT SITE 025  
SPECIMENS STAGNANT FACILITIES 24 TIMES AT SITE 025



TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAR 1-31

(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;

WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

CARBON MONOXIDE (CS: CO)  
1-HOUR

STATION	023
1. 3/22(10:40-11:40) 932.8( 2:357)	
2. 3/23(10:55-11:55) 614.3(14:199)	
3. 3/29(17:55-18:55) 612.4(14:219)	
4. 3/29(11:45-12:45) 595.5(11:270)	
5. 3/29(14:20-15:20) 576.1(13:252)	

TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAR 1-31  
(ALSO ASSOCIATED WIND SPEED AND WIND DIRECTION)

NOTES: CONCENTRATION-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

CARBON MONOXIDE (PPM: APT)  
3-HOUR

023

SITE

1.	3/22( 9:55-17:55)	581.91	5:15M
2.	3/23( 10:55-16:55)	556.81	5:20M
3.	3/29( 8:55-16:55)	551.51	5:25M
4.	3/23( 19:55- 5:55)	557.41	9:17M
5.	3/26( 10:55-22:55)	555.21	7:27M

TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAR 1-31  
(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)  
UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

0700T LWS: FDI  
1-HOUR

SITE	025
1. 3/20(15:20-16:20) 105.5(18:195)	
2. 3/25( 1:30- 2:30) 104.7(23:191)	
3. 3/24(16:25-17:25) 100.0(15:199)	
4. 3/24(10:55-11:55) 103.5(18:195)	
5. 3/13(16:05-17:05) 102.9(20:205)	

TABLE VI. THE FIVE MAXIMUM AVERAGES FOR MAR 1-31  
UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC FEET

PARTICULATE  
24-HOUR

CS

SITE

1	5/15	26.0
2	5/24	27.0
3	3/8	19.0
4	3/17	19.0
5	3/16	16.0



TABLE VII  
FUNCTIONAL DEPENDENCE OF RECORDED  
PARAMETERS UPON WIND DIRECTION

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

FLIGHT LOGS (cont) C-8 SHALE OIL PROJECT  
TRAILER NO. - 23 PERIOD 3/ 1/77 TO 3/31/77

COUNT	WIND DIRECTION										TOTAL							
	N	NE	E	ESE	SE	SSE	S	SSW	SW	WSW								
06/0000											:							
61 160 :											:							
140 - 160 :											:							
120 - 140 :											:							
110 - 120 :											:							
100 - 110 :											:							
90 - 100 :											:							
80 - 90 :											:							
70 - 80 :											:							
60 - 70 :											:							
50 - 60 :											:							
40 - 50 :											:							
30 - 40 :											:							
20 - 30 :											:							
10 - 20 :			1					1		1	:							
3											:							
11 10 :	260	153	160	182	200	319	315	424	1157	1367	713	517	422	515	434	551	261	7874
TOTAL	260	153	160	182	200	319	315	424	1157	1368	714	517	422	515	434	551	261	7877
.....																		
WIND	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

NUMBER OF FIVE-MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

(1994) 411-417

EVALUATION NO. - 25 PERIOD - 3/ 1/77 TO 5/31/77  
 C-B SHALE OIL PROJECT

[illegible]

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

1110060, DLOXICE (M02)

C-B SHALE OIL PROJECT  
TRAILER NO. - 23 PERIOD 3/ 1/77 TO 3/31/77)

WIND DIRECTION

to out of FNE L ESE SE SSE S SSN SW W WNW NW NEB CALN TOTAL

(Continued)

00/555

61 100 :

100 - 100 :

120 - 100 :

110 - 120 :

100 - 110 :

90 - 100 :

80 - 90 :

70 - 80 :

60 - 70 :

50 - 60 :

40 - 50 :

30 - 40 :

20 - 30 :

10 - 20 :

L1 10 : 260 155 100 182 207 319 315 484 1157 1368 714 317 422 513 434 551 261 : 7877

Total : 200 155 100 182 207 319 315 484 1157 1368 714 317 422 513 434 551 261 : 7877

0000

0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0.

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

CONCENTRATION OF (SO<sub>2</sub>)

TRAILER NO. - 23 PERIOD 5/ 1/77 TO 5/31/77 C-B SHALE OIL PROJECT

WIND DIRECTION

|       | N   | NNE | NE  | E   | ESE | SE  | SSE | S   | SSW  | SW   | WSW | W   | WNW | NW  | NNW | CALM | TOTAL |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|------|-------|
| 150 - |     |     |     |     |     |     |     |     |      |      |     |     |     |     |     |      | :     |
| 140 - |     |     |     |     |     |     |     |     |      |      |     |     |     |     |     |      | :     |
| 130 - |     |     |     |     |     |     |     |     |      |      |     |     |     |     |     |      | :     |
| 120 - |     |     |     |     |     |     |     |     |      |      |     |     |     |     |     |      | :     |
| 110 - |     |     |     |     |     |     |     |     |      |      |     |     |     |     |     |      | :     |
| 100 - |     |     |     |     |     |     |     |     |      |      |     | 1   |     |     |     |      | :     |
| 90 -  |     |     |     |     |     |     |     |     |      |      |     | 0   |     |     |     |      | :     |
| 80 -  |     |     |     |     |     |     |     |     |      |      |     | 0   |     |     |     |      | :     |
| 70 -  |     |     |     |     |     |     |     |     |      |      |     | 0   |     |     |     |      | :     |
| 60 -  |     |     |     |     |     |     |     |     |      |      |     | 0   |     |     |     |      | :     |
| 50 -  |     |     |     |     |     |     |     |     |      |      |     | 0   |     |     |     |      | :     |
| 40 -  |     |     |     |     |     |     |     |     |      |      |     | 0   |     |     |     |      | :     |
| 30 -  |     |     |     |     |     |     |     |     |      |      |     | 0   |     |     |     |      | :     |
| 20 -  |     |     |     |     |     |     |     |     |      |      |     | 0   |     |     |     |      | :     |
| 10 -  |     |     |     |     |     |     |     |     |      |      |     | 0   |     |     |     |      | :     |
| TOTAL | 270 | 159 | 108 | 195 | 203 | 342 | 331 | 509 | 1103 | 1428 | 703 | 370 | 490 | 541 | 451 | 572  | 8346  |
| MEAN  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.    |



NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

...Vindictive Sulfur (MS)

U-3 SHALE OIL PROJECT  
 5/31/77  
 23 PLATINUM 3/ 177 to  
 5/31/77

| COUNT | FIELD IDENTIFICATION |      |     |     |     |     |     |     |     |      | TOTAL |     |     |     |     |     |     |     |      |
|-------|----------------------|------|-----|-----|-----|-----|-----|-----|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|------|
|       | DATE                 | TIME | USE | SE  | SSE | S   | SSW | SW  | WSW | W    |       |     |     |     |     |     |     |     |      |
| 51    | 100                  |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 150   | 140                  |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 120   | 150                  |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 110   | 120                  |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 190   | 110                  |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 90    | 100                  |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 80    | 90                   |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 70    | 80                   |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 60    | 70                   |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 50    | 60                   |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 40    | 50                   |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 30    | 40                   |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 20    | 30                   |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 20                   |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 509 | 502 | 545 | 451 | 581 | 261 | 8193 |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 781 | 570 | 503 | 545 | 451 | 581 | 261 | 8190 |
| ..... |                      |      |     |     |     |     |     |     |     |      |       |     |     |     |     |     |     |     |      |
| 10    | 10                   | 275  | 160 | 170 | 190 | 280 | 330 | 320 | 452 | 1116 | 1412  | 780 | 5   |     |     |     |     |     |      |

NUMBER OF FIVE MIDGE SAMPLES BY WIND DIRECTION AND LEVEL

TOTAL FIVE MIDGE SAMPLES

TRAILER NO. - 23 PERIOD (3/1/77 TO 3/31/77) C-8 SHALE OIL PROJECT

WIND DIRECTION

COORDINATE

06/5555

01 0000 :

5000 - 5000 :

5000 - 5000 :

5200 - 5400 :

5000 - 5200 :

2000 - 5000 :

2000 - 2000 :

2000 - 2000 :

2200 - 2000 :

2000 - 2200 :

1000 - 2000 :

1000 - 1000 :

11 1000 :

TOTAL :

MEASUREMENT

|             | N   | NE  | E   | ESE | SE  | SSW | S    | SSW  | SW  | WSW | W   | WNW | NW  | WNW | CALM | TOTAL |
|-------------|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|------|-------|
| 11 1000 :   | 11. | 11. | 11. | 11. | 11. | 11. | 11.  | 11.  | 11. | 11. | 11. | 11. | 11. | 11. | 11.  | 11.   |
| 11 1000 :   | 200 | 157 | 165 | 209 | 322 | 469 | 1149 | 1584 | 725 | 522 | 463 | 506 | 422 | 566 | 257  | 7946  |
| TOTAL :     | 200 | 157 | 165 | 209 | 322 | 469 | 1153 | 1589 | 726 | 522 | 463 | 506 | 423 | 566 | 257  | 7959  |
| MEASUREMENT | 11. | 11. | 11. | 11. | 11. | 11. | 11.  | 11.  | 11. | 11. | 11. | 11. | 11. | 11. | 11.  | 11.   |

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

C-B SHALE OIL PROJECT  
3/51/77

LEVEL (Feet)

TRAFFIC NO. - 25 PERIOD 3/ 1/77 TO 3/51/77

WIND DIRECTION

TOTAL

Count (Feet)

06/ 885

61 2406 :

2200 - 2000 :

2000 - 2200 :

1800 - 2000 :

1600 - 1800 :

1400 - 1600 :

1200 - 1400 :

1000 - 1200 :

800 - 1000 :

600 - 800 :

400 - 600 :

200 - 400 :

0 - 200 :

Total :

MEAN

:

:

:

:

:

:

:

:

:

:

:

:

:

:

:

155, 607, 799, 785, 779, 784, 785, 798, 790, 793, 810, 804, 785, 786, 786, 790.

NUMBER OF FIVE MINUTE SAMPLES BY LITHO DIRECTION AND LEVEL

SONG - ELLIOTT HYDROCARBONS C-8 SHALE OIL PROJECT  
WELL NO. - 25 PERIOD (5/ 1/77 TO 5/31/77)

| CONCENTRATION<br>G/G SAAS | G    | HSE  | SE   | ESE  | SSE  | WIND DIRECTION |      |      | NW   | NNW  | CALM | TOTAL |      |      |      |      |      |      |
|---------------------------|------|------|------|------|------|----------------|------|------|------|------|------|-------|------|------|------|------|------|------|
|                           |      |      |      |      |      | S              | SSW  | SW   |      |      |      |       |      |      |      |      |      |      |
| 61 5000 :                 |      |      |      |      |      |                |      |      |      |      |      | :     |      |      |      |      |      |      |
| 2800 - 3000 :             |      |      |      |      |      |                |      |      |      |      |      | :     |      |      |      |      |      |      |
| 2600 - 2800 :             |      |      |      |      |      |                |      |      |      |      |      | :     |      |      |      |      |      |      |
| 2400 - 2600 :             |      |      |      |      |      |                |      |      |      |      |      | :     |      |      |      |      |      |      |
| 2200 - 2400 :             |      |      |      |      |      |                |      |      |      |      |      | :     |      |      |      |      |      |      |
| 2000 - 2200 :             |      |      |      |      |      |                |      |      |      |      |      | :     |      |      |      |      |      |      |
| 1800 - 2000 :             |      |      |      |      |      |                |      |      |      |      |      | :     |      |      |      |      |      |      |
| 1600 - 1800 :             |      |      |      |      |      |                |      |      |      |      |      | :     |      |      |      |      |      |      |
| 1400 - 1600 :             |      |      |      |      |      |                |      |      |      |      |      | :     |      |      |      |      |      |      |
| 1200 - 1400 :             |      |      |      |      |      |                | 1    |      |      |      |      | 1     |      |      |      |      |      |      |
| 1000 - 1200 :             |      | 1    |      |      |      | 2              | 2    |      |      |      |      | 5     |      |      |      |      |      |      |
| 800 - 1000 :              |      | 1    |      |      |      | 2              | 4    | 1    | 1    |      |      | 9     |      |      |      |      |      |      |
| 600 - 800 :               |      | 0    |      |      |      | 3              | 12   | 0    | 2    | 1    | 1    | 19    |      |      |      |      |      |      |
| LL 600 :                  | 260  | 157  | 163  | 185  | 269  | 327            | 322  | 469  | 1140 | 1369 | 725  | 322   | 463  | 504  | 421  | 565  | 257  | 7924 |
| TOTAL :                   | 260  | 157  | 163  | 185  | 271  | 327            | 322  | 469  | 1153 | 1368 | 726  | 322   | 463  | 506  | 423  | 566  | 257  | 7958 |
| .....                     |      |      |      |      |      |                |      |      |      |      |      |       |      |      |      |      |      |      |
| MEAN :                    | 318. | 260. | 287. | 280. | 290. | 287.           | 289. | 281. | 305. | 309. | 288. | 276.  | 300. | 334. | 345. | 328. | 311. | 304. |

CUMULATIVE FIVE-MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

Cumulative Count for (C0)

TRAILER NO. - 25 PERIOD 3/ 1/77 TO 3/31/77 C-B SHALF OIL PROJECT

WIND DIRECTION

Cumulative Count

06/ 0885

61 4250 :

3750 - 4000 :

3500 - 3750 :

3250 - 3500 :

3000 - 3250 :

2750 - 3000 :

2500 - 2750 :

2250 - 2500 :

2000 - 2250 :

1750 - 2000 :

1500 - 1750 :

1250 - 1500 :

11 1250 :

TOTAL :

MEAN

310. 345. 350. 375. 380. 383. 385. 389. 390. 392. 394. 372. 389. 374.



NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

0200 (05)

TRAILER NO. - 25 PERIOD 3/ 1/77 TO 3/31/77) C-B SHALE OIL PROJECT

WIND DIRECTION

CONCENTRATION

05/1000  
GT 240 :

|    |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   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TABLE VIII  
DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

DIURNAL VARIATION OF ATROPHEN UNIDES (06/000000)  
TABLE NO. - 23 PERIOD 3/ 177 16 5/31/77

HOUR

| DAY   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1     | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 2     | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 3     | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 4     | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 5     | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 6     | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 7     | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 8     | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 9     | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 10    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 11    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 12    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 13    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 14    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 15    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 16    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 17    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 18    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 19    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 20    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 21    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 22    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 23    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 24    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 25    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 26    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 27    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 28    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 29    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 30    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 31    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| TOTAL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 697 MEAN = 0.

\* INDICATES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF PIKIC OXIDE (UG/HRS)  
TABLE NO. - 23 PERIOD (3/1/77 TO 3/31/77)

HOUR

DAY 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 MEAN

|      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1    | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 2    | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 3    | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 4    | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 5    | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 1 |
| 6    | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 1 |
| 7    | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 8    | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 9    | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 10   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 11   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 12   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 13   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 14   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 1 |
| 15   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 16   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 17   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 18   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 19   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 20   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 21   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 22   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 23   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 24   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 25   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 26   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 27   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 28   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 29   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 30   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| 31   | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | A | 0 |
| MEAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

TOTAL NUMBER OF OBSERVATIONS = 6127 MEAN = 0.

A DEOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

0 INDICATES CALIBRATION DURING THE HOUR

GLOBAL VARIATION OF ULTRAVIOLET RADIATION (DUV) \*\*\*3)  
DATE: 01 - 23 PERIOD: 5/17/77 TO 5/31/77

HOUR

| DAY  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 2    | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 3    | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 4    | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 5    | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 6    | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 7    | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 8    | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 9    | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 10   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 11   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 12   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 13   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 1    |
| 14   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 15   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 16   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 17   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 18   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 19   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 20   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 21   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 1    |
| 22   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 1    |
| 23   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 24   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 25   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 26   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 27   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 28   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 29   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 30   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| 31   | A | A | A | A | A | A | A | A | A | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | A  | 0    |
| MEAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 8091 MEAN = 0.

\* DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF SULFUR DIOXIDE (UG/M\*\*3)  
LEADER NO. - 23 PERIOD 5/ 1/77 TO 3/31/77)

data

DAY

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 2    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 3    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 4    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 5    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 6    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 1    |
| 7    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 8    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 9    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 10   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 11   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 12   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 13   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 14   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 15   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 16   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 17   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 18   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 19   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 20   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 21   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 22   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 23   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 24   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 25   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 26   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 27   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 28   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 29   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 30   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 31   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| MEAN |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |

TOTAL NUMBER OF OBSERVATIONS = 8572 MEAN = 0.

\* INDICATES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

: INDICATES CALIBRATION DURING THE RUN

DIURNAL VARIATION OF HYDROGEN SULFIDE (UG/EC\*\*3)  
TALLER NO. - 25 PERIOD ( 5/ 1/77 TO 5/31/77)

HOUR

| DAY  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 2    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 3    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 4    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 5    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 6    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 7    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 8    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 9    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 10   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 11   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 12   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 13   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 14   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 15   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 16   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 17   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 18   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 19   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 20   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 21   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 22   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 23   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 24   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 25   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 26   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 27   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 28   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 29   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 30   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 31   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| MEAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 7416 MEAN = 0.

\* REFLECTS A VALID SAMPLE ALLOWING FOR MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT  
; INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TOTAL HYPOURACILS (UG/100g) X 10\*\*3 (1)  
PERIOD 3/17/77 TO 3/31/77

HOUR

|      | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 106 | 106 | 108 | 106 | 108 | 107 | 106 | 109 | 109 | 113 | 116 | 114 | 111 | 111 | 111 | 111 | 111 | 110 | 107 | 107 | 106 | 107 | 108 | 108 | 109  |
| 2    | 107 | 107 | 106 | 107 | 109 | 109 | 109 | 108 | 106 | 110 | 112 | 106 | 107 | 110 | 110 | 109 | 110 | 110 | 114 | 116 | 117 | 116 | 114 | 113 | 110  |
| 3    | 112 | 112 | 112 | 111 | 111 | 111 | 111 | 111 | 116 | 124 | 122 | 117 | 115 | 117 | 117 | 117 | 114 | 112 | 112 | 111 | 111 | 111 | 110 | 112 | 114  |
| 4    | 110 | 110 | 110 | 110 | 111 | 113 | 110 | 110 | 111 | 120 | 125 | 107 | 108 | 110 | 110 | 110 | 110 | 109 | 108 | 108 | 107 | 109 | 108 | 109 | 110  |
| 5    | 111 | 110 | 110 | 110 | 109 | 109 | 110 | 112 | 114 | 121 | 138 | 137 | 134 | 132 | 119 | 122 | 120 | 115 | 112 | 111 | 109 | 109 | 109 | 107 | 110  |
| 6    | 107 | 107 | 108 | 108 | 116 | 107 | 107 | 109 | 112 | 118 | 119 | 118 | 117 | 116 | 114 | 111 | 111 | 110 | 109 | 106 | 106 | 107 | 107 | 106 | 111  |
| 7    | 108 | 107 | 106 | 106 | 105 | 106 | 107 | 109 | 110 | 113 | 115 | 117 | 115 | 112 | 113 | 111 | 109 | 108 | 106 | 107 | 107 | 106 | 107 | 106 | 105  |
| 8    | 107 | 109 | 108 | 107 | 107 | 106 | 106 | 109 | 112 | 112 | 110 | 110 | 109 | 109 | 109 | 111 | 105 | 108 | 108 | 106 | 107 | 105 | 102 | 103 | 108  |
| 9    | 104 | 105 | 105 | 103 | 105 | 111 | 111 | 105 | 107 | 106 | 108 | 135 | 158 | 133 | 106 | 106 | 108 | 104 | 111 | 104 | 101 | 100 | 90  | 100 | 110  |
| 10   | 97  | 100 | 99  | 105 | 102 | 100 | 106 | 108 | 110 | 107 | 109 | 130 | 120 | 116 | 115 | 112 | 109 | 111 | 110 | 109 | 112 | 112 | 111 | 110 | 110  |
| 11   | 110 | 110 | 113 | 112 | 111 | 109 | 109 | 109 | 115 | 115 | 116 |     | 113 | 113 | 114 | 114 | 111 | 111 | 110 | 108 | 113 | 109 | 110 | 113 | 112  |
| 12   | 114 | 115 | 110 | 108 | 109 | 108 | 107 | 108 | 111 | 115 | 117 | 117 | 117 | 114 | 113 | 112 | 111 | 108 | 107 | 106 | 107 | 107 | 106 | 101 | 110  |
| 13   | 104 | 102 | 105 | 109 | 106 | 105 | 106 |     |     |     |     |     | 109 | 112 | 111 | 112 | 110 | 109 | 106 | 104 | 104 | 111 | 109 | 108 | 108  |
| 14   | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 106 | 109 | 113 | 117 | 121 | 109 | 108 | 109 | 109 | 109 | 110 | 109 | 109 | 109 | 109 | 109 | 109 | 109  |
| 15   | 109 | 109 | 110 | 110 | 110 | 110 | 112 | 111 | 116 | 117 | 115 | 108 | 109 | 110 | 113 | 112 | 111 | 110 | 108 | 106 | 107 | 107 | 107 | 106 | 110  |
| 16   | 109 | 107 | 107 | 107 | 107 | 107 | 107 | 106 | 111 | 113 | 113 | 112 | 110 | 107 | 108 | 109 | 106 | 105 | 105 | 105 | 105 | 106 | 106 | 104 | 108  |
| 17   | 106 | 106 | 107 | 106 | 106 | 104 | 103 | 102 | 106 | 107 | 106 | 108 | 107 | 110 | 108 | 108 | 104 | 107 | 103 | 104 | 105 | 105 | 105 | 106 | 104  |
| 18   | 106 | 105 | 105 | 105 | 105 | 106 | 105 | 107 | 107 | 106 | 106 | 109 | 108 | 109 |     | 103 | 102 | 105 | 105 | 107 | 107 | 105 | 106 | 105 | 106  |
| 19   | 105 | 105 | 106 | 107 | 106 | 106 | 106 | 106 | 111 | 114 | 115 | 114 | 113 | 113 | 114 | 112 | 110 | 112 | 108 | 105 | 107 | 105 | 108 | 106 | 105  |
| 20   | 105 | 105 | 105 | 105 | 108 | 108 | 105 | 105 | 105 | 106 | 104 | 99  | 111 | 105 | 102 | 102 | 103 |     | 97  | 99  |     |     |     |     | 105  |
| 21   | 110 | 109 | 105 | 105 | 101 | 105 |     |     |     |     |     |     | 95  |     |     |     |     | 98  | 97  | 97  | 96  | 96  | 97  | 97  | 100  |
| 22   | 96  | 96  | 97  | 97  | 97  | 96  | 97  | 91  | 99  | 94  | 98  | 103 | 104 | 104 | 101 | 103 | 103 | 104 | 104 | 104 | 105 | 98  |     |     | 100  |
| 23   | 101 |     |     | 92  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 100  |
| 24   | 110 | 110 | 109 | 110 | 110 | 111 | 108 | 108 |     |     |     |     | 108 | 111 | 131 | 123 | 114 | 112 | 111 | 109 | 110 | 108 | 109 | 111 | 112  |
| 25   | 111 | 111 | 110 | 109 | 109 | 109 | 107 | 106 | 108 | 108 | 109 | 111 | 110 | 106 | 111 | 111 | 106 | 107 | 109 | 107 | 106 | 106 | 108 | 110 | 109  |
| 26   | 111 | 111 | 112 | 111 | 112 | 116 | 110 | 111 | 114 | 117 | 118 | 119 | 116 | 116 | 116 | 107 | 108 | 109 | 110 | 109 | 109 | 110 | 108 | 108 | 112  |
| 27   | 108 | 109 | 110 | 109 | 109 | 109 | 110 | 113 | 116 | 117 | 118 | 117 | 117 | 109 | 114 | 114 | 112 | 103 | 110 | 111 | 108 | 106 | 104 |     | 111  |
| 28   | 102 |     |     |     | 105 | 104 | 104 | 109 | 112 | 107 |     |     |     | 101 | 111 | 104 | 106 | 108 |     |     |     |     |     |     | 108  |
| 29   | 105 | 105 | 102 | 102 | 102 | 101 | 102 | 105 | 110 | 115 | 106 | 102 | 103 | 108 |     |     |     |     | 116 | 106 | 109 | 110 | 111 | 110 | 108  |
| 30   | 109 | 109 | 110 |     |     | 108 | 108 | 111 | 105 | 109 | 110 | 117 | 120 |     | 115 | 112 | 110 | 114 | 114 | 113 | 114 | 113 | 113 | 113 | 112  |
| 31   | 113 | 113 | 113 | 112 | 114 | 115 | 115 | 117 | 119 | 121 | 118 | 105 | 109 | 115 | 115 | 116 | 115 | 111 | 107 | 105 |     | 101 | 109 | 104 | 112  |
| MEAN | 106 | 107 | 107 | 107 | 106 | 107 | 107 | 107 | 105 | 111 | 113 | 113 | 113 | 113 | 113 | 112 | 111 | 109 | 108 | 107 | 107 | 107 | 107 | 107 | 107  |

TOTAL NUMBER OF OBSERVATIONS = 6102 MEAN = 110.

\* INDICATES CALIBRATION DURING THE HOUR

DAILY VARIATION OF IRRADIANCE (0.6/0.003 X 10<sup>10</sup> W/M<sup>2</sup>)  
TABLE NO. - 25 PERIOD 3/ 1/77 TO 5/31/77

HOUR

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 70 | 70 | 67 | 67 | 65 | 65 | 62 | 74 | 67 | 67 | 65 | 69 | 68 | 65 | 74 | 68 | 70 | 69 | 69 | 66 | 61 | 68 | 78 | 69 | 68   |
| 2    | 68 | 68 | 66 | 66 | 75 | 70 | 71 | 74 | 70 | 67 | 66 | 74 | 72 | 75 | 71 | 71 | 69 | 65 | 69 | 76 | 75 | 76 | 74 | 74 | 70   |
| 3    | 74 | 72 | 71 | 75 | 75 | 72 | 75 | 74 | 76 | 78 | 79 | 75 | 76 | 75 | 76 | 76 | 75 | 72 | 73 | 70 | 74 | 76 | 75 | 75 | 74   |
| 4    | 75 | 75 | 75 | 75 | 75 | 72 | 75 | 74 | 75 | 61 | 65 | 79 | 79 | 79 | 76 | 75 | 74 | 76 | 76 | 76 | 76 | 78 | 76 | 76 | 76   |
| 5    | 78 | 79 | 77 | 77 | 75 | 75 | 76 | 77 | 75 | 75 | 82 | 80 | 78 | 78 | 77 | 77 | 76 | 76 | 74 | 75 | 76 | 76 | 76 | 76 | 77   |
| 6    | 75 | 75 | 74 | 76 | 75 | 74 | 72 | 69 | 74 | 77 | 76 | 76 | 76 | 75 | 75 | 75 | 76 | 76 | 75 | 76 | 75 | 75 | 74 | 76 | 75   |
| 7    | 76 | 76 | 76 | 76 | 75 | 74 | 75 | 76 | 75 | 75 | 75 | 74 | 74 | 76 | 76 | 75 | 75 | 75 | 74 | 74 | 71 | 73 | 75 | 75 | 75   |
| 8    | 75 | 75 | 74 | 75 | 75 | 75 | 75 | 75 | 75 | 72 | 69 | 74 | 75 | 75 | 75 | 74 | 75 | 71 | 73 | 75 | 75 | 75 | 75 | 75 | 75   |
| 9    | 71 | 75 | 75 | 75 | 74 | 75 | 71 | 75 | 75 | 75 | 74 | 75 | 75 | 71 | 67 | 70 | 71 | 73 | 74 | 74 | 75 | 74 | 73 | 74 | 73   |
| 10   | 75 | 74 | 75 | 77 | 74 | 75 | 78 | 78 | 78 | 76 | 76 | 77 | 78 | 77 | 77 | 77 | 75 | 75 | 77 | 78 | 80 | 80 | 80 | 78 | 77   |
| 11   | 78 | 75 | 80 | 79 | 78 | 81 | 78 | 77 | 78 | 77 | 80 | 77 | 76 | 79 | 79 | 76 | 76 | 79 | 76 | 77 | 76 | 72 | 76 | 81 | 78   |
| 12   | 65 | 62 | 70 | 75 | 76 | 77 | 76 | 76 | 71 | 74 | 77 | 77 | 76 | 76 | 74 | 75 | 75 | 74 | 74 | 76 | 76 | 78 | 77 | 77 | 76   |
| 13   | 74 | 74 | 72 | 71 | 75 | 76 | 76 | 77 | 76 | 76 | 76 | 75 | 75 | 74 | 75 | 77 | 76 | 77 | 76 | 76 | 75 | 79 | 76 | 75 | 75   |
| 14   | 72 | 76 | 74 | 78 | 79 | 78 | 78 | 77 | 76 | 80 | 81 | 80 | 79 | 78 | 75 | 80 | 79 | 79 | 77 | 79 | 81 | 79 | 79 | 80 | 78   |
| 15   | 60 | 61 | 62 | 62 | 61 | 61 | 61 | 61 | 61 | 62 | 62 | 79 | 80 | 80 | 80 | 80 | 79 | 80 | 79 | 79 | 77 | 78 | 79 | 80 | 80   |
| 16   | 79 | 79 | 80 | 78 | 76 | 76 | 79 | 76 | 77 | 76 | 79 | 79 | 77 | 75 | 77 | 77 | 77 | 76 | 76 | 78 | 76 | 76 | 77 | 76 | 77   |
| 17   | 75 | 72 | 76 | 76 | 76 | 75 | 76 | 75 | 76 | 77 | 77 | 75 | 77 | 76 | 75 | 78 | 76 | 77 | 75 | 76 | 75 | 76 | 74 | 75 | 75   |
| 18   | 76 | 77 | 76 | 76 | 77 | 76 | 77 | 75 | 77 | 75 | 77 | 75 | 77 | 78 | 75 | 80 | 78 | 78 | 78 | 78 | 81 | 78 | 75 | 75 | 77   |
| 19   | 77 | 79 | 77 | 78 | 77 | 78 | 78 | 79 | 78 | 79 | 79 | 79 | 79 | 79 | 80 | 79 | 80 | 79 | 79 | 78 | 78 | 76 | 79 | 79 | 78   |
| 20   | 79 | 79 | 76 | 76 | 79 | 80 | 79 | 79 | 78 | 79 | 78 | 79 | 79 | 80 | 79 | 80 | 80 | 79 | 81 | 81 | 81 | 80 | 80 | 81 | 79   |
| 21   | 66 | 65 | 62 | 61 | 61 | 62 | 61 | 61 | 62 | 62 | 65 | 79 | 80 | 85 | 82 | 82 | 83 | 82 | 82 | 82 | 81 | 81 | 81 | 82 | 82   |
| 22   | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 62 | 62 | 62 | 62 | 64 | 65 | 65 | 62 | 62 | 62 | 61 | 61 | 61 | 81 | 81 | 81 | 81 | 82   |
| 23   | 62 | 62 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61   |
| 24   | 65 | 65 | 64 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65   |
| 25   | 62 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 65   |
| 26   | 66 | 65 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66   |
| 27   | 64 | 65 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66   |
| 28   | 65 | 65 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66   |
| 29   | 67 | 66 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67   |
| 30   | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67   |
| 31   | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 67   |
| Mean | 70 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74   |

TOTAL NUMBER OF OBSERVATIONS = 6128 MEAN = 75.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF METHANE HYDROCARBONS (UG/GAS X 10<sup>xx-1</sup>)  
TRAILER NO. - 25 PERIOD 3/ 1/77 TO 3/31/77

HOUR

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |   |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|---|
| 1    | 50 | 50 | 46 | 41 | 45 | 42 | 44 | 55 | 42 | 46 | 52 | 45 | 42 | 48 | 37 | 43 | 41 | 41 | 38 | 41 | 45 | 39 | 29 | 23 | 39   | 4 |
| 2    | 39 | 39 | 40 | 46 | 33 | 38 | 38 | 34 | 38 | 43 | 46 | 52 | 35 | 37 | 38 | 39 | 41 | 45 | 46 | 40 | 42 | 40 | 40 | 38 | 40   |   |
| 3    | 50 | 40 | 41 | 36 | 36 | 39 | 37 | 37 | 40 | 45 | 43 | 41 | 39 | 41 | 41 | 40 | 39 | 40 | 38 | 41 | 37 | 35 | 34 | 37 | 5    |   |
| 4    | 34 | 37 | 34 | 35 | 37 | 40 | 37 | 36 | 38 | 39 | 40 | 27 | 28 | 31 | 34 | 35 | 35 | 34 | 32 | 32 | 31 | 31 | 32 | 33 | 35   |   |
| 5    | 34 | 31 | 32 | 33 | 34 | 34 | 34 | 35 | 39 | 46 | 50 | 50 | 56 | 53 | 42 | 45 | 44 | 39 | 37 | 36 | 33 | 33 | 33 | 32 | 35   |   |
| 6    | 32 | 33 | 35 | 32 | 43 | 33 | 35 | 40 | 38 | 41 | 43 | 41 | 40 | 40 | 39 | 38 | 35 | 34 | 33 | 31 | 31 | 32 | 33 | 30 | 35   |   |
| 7    | 32 | 31 | 30 | 30 | 31 | 33 | 31 | 34 | 35 | 37 | 40 | 40 | 41 | 36 | 37 | 36 | 34 | 34 | 33 | 34 | 36 | 33 | 32 | 31 | 35   |   |
| 8    | 32 | 34 | 34 | 34 | 32 | 31 | 31 | 34 | 39 | 39 | 41 | 36 | 35 | 35 | 35 | 37 | 30 | 37 | 36 | 31 | 32 | 33 | 29 | 30 | 35   |   |
| 9    | 35 | 32 | 32 | 29 | 31 | 37 | 40 | 29 | 32 | 32 | 34 | 61 | 60 | 62 | 58 | 37 | 37 | 31 | 37 | 30 | 27 | 27 | 17 | 26 | 35   |   |
| 10   | 24 | 26 | 24 | 28 | 29 | 27 | 28 | 30 | 32 | 31 | 32 | 53 | 41 | 49 | 38 | 35 | 35 | 36 | 33 | 31 | 32 | 30 | 31 | 31 | 35   |   |
| 11   | 32 | 35 | 33 | 35 | 32 | 28 | 31 | 31 | 36 | 37 | 36 | :  | 55 | 54 | 54 | 36 | 35 | 32 | 32 | 36 | 36 | 37 | 32 | 32 | 35   |   |
| 12   | 31 | 32 | 32 | 33 | 33 | 31 | 31 | 32 | 30 | 39 | 39 | 39 | 39 | 37 | 39 | 37 | 36 | 34 | 33 | 30 | 29 | 29 | 29 | 24 | 35   |   |
| 13   | 30 | 28 | 31 | 34 | 35 | 28 | 29 | 28 | 35 | 35 | 34 | 33 | 33 | 32 | 30 | 33 | 33 | 33 | 30 | 29 | 30 | 31 | 32 | 33 | 35   |   |
| 14   | 30 | 30 | 34 | 25 | 28 | 29 | 27 | 30 | 34 | 34 | 35 | 41 | 30 | 30 | 34 | 29 | 29 | 31 | 31 | 30 | 28 | 30 | 28 | 30 | 35   |   |
| 15   | 29 | 26 | 26 | 26 | 29 | 28 | 31 | 31 | 33 | 35 | 35 | 35 | 29 | 30 | 33 | 31 | 32 | 29 | 29 | 27 | 29 | 29 | 28 | 29 | 35   |   |
| 16   | 30 | 28 | 27 | 26 | 31 | 31 | 29 | 28 | 30 | 29 | 33 | 36 | 31 | 34 | 35 | 30 | 28 | 29 | 29 | 28 | 30 | 28 | 28 | 30 | 35   |   |
| 17   | 31 | 34 | 32 | 30 | 30 | 28 | 27 | 29 | 30 | 31 | 29 | 33 | 31 | 32 | 25 | 25 | 24 | 27 | 27 | 29 | 26 | 27 | 31 | 31 | 29   |   |
| 18   | 29 | 28 | 28 | 29 | 28 | 29 | 26 | 31 | 30 | 31 | 29 | 33 | 31 | 32 | 25 | 25 | 24 | 27 | 27 | 29 | 26 | 27 | 31 | 31 | 29   |   |
| 19   | 20 | 26 | 29 | 29 | 29 | 28 | 28 | 29 | 33 | 35 | 34 | 34 | 34 | 34 | 30 | 32 | 31 | 35 | 29 | 27 | 28 | 28 | 29 | 26 | 30   |   |
| 20   | 20 | 26 | 27 | 27 | 27 | 26 | 26 | 26 | 27 | 26 | 26 | 20 | 29 | 24 | 23 | 22 | 23 | 28 | 16 | 18 | 20 | 20 | 26 | 27 | 25   |   |
| 21   | 25 | 26 | 25 | 24 | 19 | 23 | 15 | 9  | 16 | 12 | 10 | 10 | 16 | 21 | 19 | :  | 14 | 16 | 15 | 15 | 15 | 15 | 15 | 16 | 18   |   |
| 22   | 10 | 16 | 16 | 16 | 16 | 16 | 15 | 15 | 16 | 12 | 10 | 19 | 22 | 21 | 19 | 20 | 21 | 23 | 23 | 23 | 17 | 17 | 17 | 17 | 18   |   |
| 23   | 19 | 19 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 18   |   |
| 24   | 26 | 27 | 26 | 26 | 21 | 27 | 25 | 25 | 26 | 26 | 26 | 25 | 26 | 46 | 40 | 31 | 29 | 28 | 26 | 26 | 25 | 28 | 29 | 29 | 29   |   |
| 25   | 26 | 26 | 27 | 26 | 27 | 26 | 24 | 23 | 26 | 26 | 26 | 28 | 27 | 25 | 28 | 28 | 25 | 24 | 26 | 26 | 22 | 23 | 25 | 25 | 29   |   |
| 26   | 26 | 26 | 26 | 25 | 26 | 25 | 25 | 26 | 26 | 31 | 32 | 32 | 30 | 31 | 32 | 22 | 23 | 24 | 26 | 24 | 22 | 23 | 25 | 25 | 29   |   |
| 27   | 25 | 24 | 24 | 23 | 24 | 23 | 25 | 26 | 30 | 32 | 32 | 32 | 33 | 25 | 30 | 29 | 26 | 19 | 26 | 27 | 26 | 24 | 24 | 23 | 29   |   |
| 28   | 20 | 20 | 20 | 19 | 19 | 18 | 19 | 23 | 26 | 26 | 15 | 15 | 24 | 17 | 19 | 19 | 21 | 21 | 22 | 20 | 21 | 16 | 17 | 16 | 19   |   |
| 29   | 17 | 16 | 16 | 15 | 16 | 16 | 17 | 19 | 24 | 26 | 12 | 14 | 17 | 20 | :  | :  | 22 | :  | 22 | 20 | 21 | 23 | 24 | 23 | 19   |   |
| 30   | 22 | 22 | 23 | :  | 21 | 18 | 21 | 25 | 17 | 21 | 25 | 28 | 32 | 27 | 27 | 24 | 23 | 27 | 27 | 26 | 27 | 26 | 26 | 27 | 19   |   |
| 31   | 20 | 26 | 25 | 26 | 27 | 27 | 26 | 29 | 33 | 35 | 32 | 17 | 22 | 26 | 28 | 30 | 29 | 25 | 20 | 19 | 15 | 15 | 22 | 18 | 26   |   |
| MEAN | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 30 | 33 | 34 | 35 | 33 | 34 | 34 | 34 | 32 | 30 | 31 | 30 | 29 | 29 | 28 | 28 | 28 | 28   |   |

TOTAL NUMBER OF OBSERVATIONS = 1101 MEAN = 31.

: INDICATES CALCULATED DURING THE HOUR



JOURNAL VARIATION OF CARBON DIOXIDE (CG/MAX 5 X 10\*\*1)  
LEAFLET NO. - 25 PERIOD (3/ 1/77 TO 3/31/77)

TIME

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 MEAN

DAY

1

2

3

4

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10

11

12

13

14

15

16

17

18

19

20

21

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23

24

25

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31

MEAN

:

:

:

:

TOTAL NUMBER OF OBSERVATIONS = 4724 MEAN = 37.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF OZONE (06/00005)  
TRAILER NO. - 23 PERIOD 3/ 1/77 TO 5/31/77

HOUR

| DAY   | 1  | 2   | 3   | 4   | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12  | 13  | 14 | 15 | 16  | 17  | 18  | 19 | 20  | 21  | 22  | 23 | 24 | MEAN |
|-------|----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|----|----|-----|-----|-----|----|-----|-----|-----|----|----|------|
| 1     | 73 | 76  | 72  | 74  | 75 | 75 | 74 | 74 | 77 | 82 | 85 | 87  | 87  | 87 | 89 | 88  | 88  | 88  | 87 | 88  | 87  | 79  | 76 | 78 | 81   |
| 2     | 79 | 81  | 80  | 71  | 74 | 73 | 72 | 74 | 74 | 75 | 79 | 74  | 76  | 78 | 80 | 80  | 80  | 80  | 69 | 65  | 63  | 62  | 61 | 61 | 73   |
| 3     | 66 | 59  | 59  | 59  | 59 | 56 | 56 | 56 | 62 | 68 | 71 | 72  | 73  | 74 | 75 | 80  | 81  | 79  | 73 | 67  | 69  | 70  | 71 | 69 | 67   |
| 4     | 71 | 73  | 68  | 69  | 70 | 65 | 67 | 69 | 67 | 66 | 71 | 68  | 69  | 73 | 72 | 72  | 84  | 71  | 71 | 69  | 67  | 66  | 66 | 68 | 69   |
| 5     | 67 | 68  | 68  | 69  | 71 | 69 | 73 | 73 | 74 | 79 | 79 | 81  | 83  | 84 | 85 | 85  | 82  | 82  | 78 | 76  | 79  | 78  | 81 | 82 | 77   |
| 6     | 81 | 82  | 81  | 81  | 81 | 81 | 81 | 80 | 80 | 84 | 87 | 88  | 86  | 86 | 82 | 83  | 81  | 81  | 79 | 76  | 74  | 77  | 78 | 78 | 81   |
| 7     | 80 | 76  | 75  | 78  | 76 | 77 | 76 | 74 | 77 | 81 | 82 | 82  | 83  | 85 | 84 | 82  | 81  | 80  | 78 | 77  | 75  | 75  | 74 | 74 | 79   |
| 8     | 75 | 75  | 73  | 75  | 71 | 71 | 71 | 71 | 73 | 74 | 76 | 76  | 79  | 80 | 81 | 78  | 74  | 72  | 68 | 68  | 68  | 67  | 67 | 70 | 73   |
| 9     | 60 | 67  | 70  | 68  | 72 | 71 | 70 | 70 | 69 | 69 | 70 | 70  | 70  | 73 | 77 | 78  | 72  | 72  | 70 | 68  | 68  | 70  | 71 | 71 | 71   |
| 10    | 60 | 65  | 61  | 63  | 65 | 70 | 71 | 72 | 73 | 71 | 71 | 75  | 78  | 78 | 79 | 79  | 79  | 96  | 96 | 95  | 92  | 86  | 89 | 88 | 91   |
| 11    | 70 | 74  | 73  | 74  | 75 | 73 | 73 | 71 | 72 | 74 | 77 | 77  | 76  | 77 | 76 | 76  | 75  | 97  | 84 | 80  | 74  | 75  | 75 | 76 | 77   |
| 12    | 66 | 67  | 67  | 68  | 67 | 68 | 69 | 68 | 69 | 75 | 82 | 87  | 87  | 86 | 85 | 83  | 87  | 87  | 84 | 86  | 84  | 83  | 82 | 81 | 78   |
| 13    | 66 | 66  | 65  | 65  | 63 | 62 | 62 | 62 | 60 | 64 | 67 | 67  | 67  | 66 | 65 | 63  | 61  | 101 | 96 | 95  | 92  | 86  | 89 | 88 | 91   |
| 14    | 70 | 73  | 73  | 71  | 68 | 65 | 65 | 62 | 60 | 65 | 68 | 62  | 64  | 66 | 67 | 65  | 90  | 88  | 84 | 80  | 74  | 75  | 75 | 76 | 77   |
| 15    | 71 | 71  | 73  | 74  | 73 | 74 | 76 | 76 | 81 | 85 | 97 | 97  | 96  | 95 | 94 | 97  | 97  | 97  | 94 | 88  | 87  | 84  | 83 | 90 | 84   |
| 16    | 68 | 69  | 66  | 66  | 67 | 68 | 67 | 67 | 77 | 82 | 84 | 87  | 87  | 93 | 95 | 93  | 86  | 86  | 84 | 89  | 85  | 81  | 84 | 83 | 90   |
| 17    | 89 | 89  | 89  | 88  | 82 | 79 | 77 | 77 | 81 | 82 | 89 | 86  | 87  | 87 | 93 | 95  | 82  | 86  | 84 | 89  | 84  | 85  | 74 | 84 | 85   |
| 18    | 87 | 81  | 76  | 79  | 74 | 89 | 90 | 81 | 92 | 90 | 89 | 86  | 87  | 87 | 80 | 76  | 81  | 82  | 83 | 82  | 78  | 77  | 72 | 74 | 83   |
| 19    | 75 | 75  | 77  | 76  | 75 | 76 | 75 | 76 | 80 | 80 | 80 | 79  | 79  | 80 | 80 | 80  | 77  | 76  | 74 | 73  | 73  | 75  | 77 | 76 | 77   |
| 20    | 70 | 73  | 71  | 70  | 71 | 71 | 75 | 85 | 88 | 89 | 89 | 92  | 91  | 89 | 88 | 89  | 87  | 87  | 84 | 78  | 75  | 82  | 83 | 83 | 82   |
| 21    | 82 | 78  | 79  | 76  | 77 | 72 | 75 | 75 | 82 | 82 | 89 | 90  | 91  | 86 | 82 | 82  | 89  | 89  | 85 | 85  | 85  | 85  | 83 | 83 | 83   |
| 22    | 81 | 82  | 81  | 81  | 79 | 82 | 79 | 81 | 85 | 86 | 85 | 77  | 80  | 80 | 82 | 84  | 86  | 84  | 78 | 76  | 80  | 77  | 78 | 81 | 81   |
| 23    | 82 | 78  | 77  | 79  | 76 | 78 | 79 | 78 | 81 | 82 | 85 | 76  | 80  | 83 | 87 | 90  | 93  | 93  | 88 | 83  | 82  | 82  | 84 | 82 | 82   |
| 24    | 82 | 82  | 80  | 81  | 76 | 75 | 75 | 79 | 83 | 82 | 85 | 103 | 100 | 97 | 95 | 104 | 102 | 98  | 99 | 100 | 100 | 100 | 96 | 96 | 92   |
| 25    | 90 | 102 | 104 | 101 | 99 | 98 | 95 | 91 | 93 | 93 | 91 | 90  | 91  | 89 | 90 | 89  | 87  | 87  | 86 | 89  | 85  | 82  | 76 | 79 | 91   |
| 26    | 85 | 85  | 79  | 77  | 76 | 76 | 74 | 65 | 71 | 68 | 77 | 83  | 82  | 80 | 80 | 80  | 82  | 78  | 74 | 52  | 57  | 58  | 59 | 60 | 73   |
| 27    | 80 | 81  | 75  | 80  | 85 | 70 | 66 | 60 | 72 | 76 | 79 | 81  | 85  | 82 | 84 | 83  | 87  | 89  | 89 | 88  | 85  | 59  | 59 | 60 | 73   |
| 28    | 80 | 80  | 80  | 80  | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80  | 80  | 80 | 80 | 80  | 80  | 80  | 80 | 80  | 80  | 80  | 80 | 80 | 80   |
| 29    | 80 | 80  | 80  | 80  | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80  | 80  | 80 | 80 | 80  | 80  | 80  | 80 | 80  | 80  | 80  | 80 | 80 | 80   |
| 30    | 80 | 80  | 80  | 80  | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80  | 80  | 80 | 80 | 80  | 80  | 80  | 80 | 80  | 80  | 80  | 80 | 80 | 80   |
| 31    | 80 | 80  | 80  | 80  | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80  | 80  | 80 | 80 | 80  | 80  | 80  | 80 | 80  | 80  | 80  | 80 | 80 | 80   |
| TOTAL | 75 | 74  | 74  | 74  | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74  | 74  | 74 | 74 | 74  | 74  | 74  | 74 | 74  | 74  | 74  | 74 | 74 | 74   |

TOTAL NUMBER OF OBSERVATIONS = 6412 MEAN = 79.

IRADIAN CORPORATION

HOURLY TOTAL PRECIPITATION (HUNDRETHS OF INCHES)  
TRAILER NO. - 25 PERIOD 3/ 1/77 TO 3/31/77

| DAY   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | TOTAL |
|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| 1     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 4  | 1  | 5     |
| 2     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 13    |
| 3     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 4     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 5     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 6     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 7     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 8     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 9     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 10    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 11    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 12    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 13    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 14    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 15    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 16    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 17    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0  | 0  | 5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 18    | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 19    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 20    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 21    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 22    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 23    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 24    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 25    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 2  | 0  | 0     |
| 26    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 27    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 28    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 29    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 30    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 31    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0  | 0  | 5  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 6  | 1  | 1     |

TOTAL NUMBER OF OBSERVATIONS = 8739 TOTAL = 45.

: INDICATES CALIBRATION DURING THE HOUR

## WIND SPEED VARIATION AT 8 FEET (MPH) PERIOD 5/17/77 TO 5/31/77

WIND

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 MEAN

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
| 2  | 3  | 1  | 0  | 0  | 1  | 5  | 3  | 0  | 3  | 9  | 1  | 7  | 2  | 1  | 3  | 2  | 3  | 7  | 3  | 10 | 1  | 2  | 2  | 2    |
| 3  | 5  | 2  | 0  | 0  | 0  | 4  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |      |
| 4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |      |
| 5  | 0  | 1  | 0  | 1  | 2  | 2  | 3  | 2  | 2  | 5  | 10 | 10 | 14 | 16 | 13 | 11 | 11 | 10 | 14 | 14 | 14 | 12 | 14 |      |
| 6  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |      |
| 7  | 5  | 4  | 2  | 2  | 2  | 4  | 3  | 2  | 2  | 5  | 10 | 13 | 14 | 15 | 13 | 11 | 11 | 9  | 7  | 10 | 12 | 11 | 12 |      |
| 8  | 0  | 1  | 0  | 1  | 1  | 2  | 2  | 2  | 2  | 3  | 3  | 6  | 7  | 8  | 6  | 5  | 4  | 3  | 3  | 7  | 8  | 7  | 7  |      |
| 9  | 0  | 1  | 0  | 1  | 2  | 2  | 3  | 2  | 2  | 5  | 6  | 3  | 4  | 5  | 4  | 3  | 2  | 2  | 2  | 4  | 5  | 4  | 4  |      |
| 10 | 5  | 2  | 1  | 0  | 0  | 2  | 2  | 7  | 16 | 9  | 12 | 7  | 10 | 12 | 13 | 12 | 10 | 8  | 15 | 14 | 15 | 12 | 15 |      |
| 11 | 9  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |    |      |
| 12 | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 2  | 2  | 3  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  |      |
| 13 | 7  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  |    |      |
| 14 | 2  | 3  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |    |      |
| 15 | 1  | 2  | 1  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |    |      |
| 16 | 3  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |    |      |
| 17 | 7  | 8  | 10 | 6  | 6  | 2  | 1  | 0  | 0  | 1  | 7  | 6  | 10 | 8  | 7  | 3  | 3  | 1  | 1  | 4  | 1  | 1  | 1  |      |
| 18 | 3  | 0  | 0  | 2  | 3  | 2  | 4  | 10 | 14 | 15 | 15 | 13 | 13 | 13 | 12 | 6  | 3  | 2  | 2  | 5  | 4  | 2  | 2  |      |
| 19 | 1  | 2  | 3  | 1  | 3  | 2  | 4  | 7  | 12 | 12 | 11 | 12 | 14 | 15 | 15 | 15 | 9  | 6  | 8  | 7  | 11 | 10 | 10 |      |
| 20 | 10 | 9  | 6  | 6  | 11 | 5  | 5  | 4  | 3  | 5  | 3  | 2  | 2  | 5  | 4  | 3  | 4  | 2  | 2  | 5  | 4  | 2  | 4  |      |
| 21 | 1  | 2  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 2  | 4  | 6  | 6  | 6  | 4  | 5  | 4  | 4  | 1  | 1  | 1  | 1  |      |
| 22 | 1  | 2  | 2  | 1  | 1  | 2  | 1  | 2  | 1  | 0  | 2  | 2  | 3  | 3  | 4  | 3  | 3  | 3  | 4  | 1  | 1  | 1  | 1  |      |
| 23 | 0  | 0  | 2  | 4  | 3  | 6  | 5  | 7  | 12 | 11 | 10 | 6  | 5  | 4  | 3  | 2  | 2  | 2  | 4  | 3  | 4  | 6  | 6  |      |
| 24 | 0  | 9  | 5  | 6  | 5  | 13 | 10 | 15 | 14 | 15 | 14 | 15 | 16 | 15 | 16 | 12 | 9  | 7  | 7  | 10 | 12 | 11 | 12 |      |
| 25 | 10 | 15 | 18 | 14 | 16 | 13 | 10 | 13 | 16 | 14 | 15 | 14 | 11 | 13 | 13 | 8  | 5  | 8  | 3  | 1  | 1  | 1  | 1  |      |
| 26 | 2  | 2  | 3  | 0  | 1  | 1  | 1  | 0  | 2  | 4  | 5  | 2  | 0  | 1  | 3  | 5  | 2  | 6  | 2  | 1  | 1  | 1  | 1  |      |
| 27 | 1  | 2  | 1  | 1  | 1  | 0  | 0  | 1  | 2  | 2  | 2  | 3  | 5  | 6  | 8  | 7  | 8  | 7  | 6  | 9  | 8  | 7  | 1  |      |
| 28 | 9  | 12 | 2  | 10 | 6  | 5  | 1  | 11 | 8  | 11 | 8  | 8  | 10 | 12 | 9  | 10 | 2  | 7  | 3  | 1  | 2  | 1  | 1  |      |
| 29 | 1  | 2  | 2  | 1  | 2  | 1  | 2  | 5  | 8  | 8  | 10 | 0  | 12 | 10 | 9  | 10 | 6  | 10 | 7  | 2  | 1  | 1  | 3  |      |
| 30 | 2  | 1  | 1  | 0  | 0  | 1  | 0  | 2  | 3  | 2  | 3  | 4  | 6  | 7  | 6  | 7  | 6  | 3  | 2  | 3  | 2  | 1  | 2  |      |
| 31 | 2  | 1  | 2  | 1  | 0  | 1  | 0  | 5  | 11 | 12 | 14 | 12 | 12 | 13 | 14 | 13 | 15 | 7  | 4  | 3  | 1  | 2  | 3  |      |

TOTAL NUMBER OF OBSERVATIONS = 6753 MEAN = 6.

1. ESTIMATES CORRELATION DURING THE HOUR



DIURNAL VARIATION OF WIND SPEED AT 30 FEET (m.p.h.)  
TABLE NO. - 25 PERIOD 5/1/77 TO 3/31/77

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 4  | 5  | 6  | 5  | 7  | 6  | 7  | 8  | 9  | 10 | 25 | 25 | 19 | 17 | 16 | 14 | 14 | 13 | 8  | 7  | 6  | 4  | 5  | 8  | 11   |
| 2    | 5  | 7  | 3  | 2  | 3  | 4  | 5  | 3  | 2  | 5  | 6  | 7  | 7  | 10 | 9  | 7  | 8  | 8  | 8  | 7  | 5  | 4  | 4  | 3  | 5    |
| 3    | 3  | 3  | 3  | 3  | 1  | 1  | 2  | 1  | 2  | 3  | 5  | 7  | 6  | 6  | 5  | 3  | 2  | 3  | 2  | 2  | 2  | 2  | 1  | 1  | 3    |
| 4    | 1  | 0  | 2  | 1  | 0  | 0  | 0  | 0  | 0  | 2  | 7  | 9  | 10 | 11 | 11 | 10 | 10 | 9  | 5  | 3  | 4  | 4  | 4  | 3  | 4    |
| 5    | 1  | 1  | 0  | 1  | 1  | 2  | 0  | 2  | 2  | 1  | 5  | 6  | 5  | 4  | 2  | 3  | 5  | 2  | 3  | 6  | 3  | 2  | 1  | 1  | 2    |
| 6    | 5  | 1  | 1  | 4  | 4  | 4  | 3  | 5  | 2  | 5  | 8  | 7  | 7  | 7  | 7  | 6  | 7  | 8  | 10 | 5  | 2  | 3  | 4  | 4  | 5    |
| 7    | 0  | 0  | 5  | 5  | 3  | 4  | 5  | 4  | 3  | 4  | 11 | 17 | 16 | 14 | 17 | 16 | 10 | 11 | 3  | 9  | 11 | 6  | 5  | 6  | 8    |
| 8    | 5  | 0  | 5  | 5  | 6  | 5  | 6  | 10 | 19 | 20 | 21 | 18 | 16 | 15 | 9  | 11 | 8  | 5  | 3  | 4  | 4  | 3  | 2  | 4  | 9    |
| 9    | 1  | 2  | 4  | 3  | 16 | 19 | 21 | 21 | 20 | 14 | 20 | 22 | 18 | 19 | 20 | 19 | 18 | 11 | 11 | 9  | 4  | 6  | 6  | 11 | 13   |
| 10   | 5  | 9  | 12 | 6  | 10 | 14 | 17 | 15 | 17 | 16 | 14 | 18 | 20 | 24 | 25 | 22 | 17 | 18 | 14 | 13 | 15 | 17 | 15 | 16 | 15   |
| 11   | 13 | 12 | 14 | 14 | 14 | 11 | 11 | 8  | 12 | 15 | 15 | 17 | 18 | 16 | 14 | 15 | 15 | 13 | 10 | 7  | 4  | 1  | 2  | 1  | 11   |
| 12   | 2  | 0  | 1  | 0  | 3  | 3  | 1  | 1  | 0  | 3  | 5  | 4  | 9  | 8  | 6  | 10 | 11 | 8  | 5  | 3  | 4  | 9  | 7  | 8  | 5    |
| 13   | 11 | 9  | 16 | 23 | 22 | 16 | 19 | 1  | 3  | 4  | 5  | 9  | 24 | 25 | 24 | 21 | 20 | 15 | 9  | 5  | 4  | 9  | 2  | 3  | 15   |
| 14   | 3  | 0  | 4  | 3  | 2  | 5  | 2  | 1  | 3  | 4  | 5  | 9  | 7  | 5  | 9  | 7  | 6  | 5  | 3  | 4  | 5  | 1  | 1  | 1  | 4    |
| 15   | 3  | 3  | 4  | 1  | 0  | 1  | 0  | 1  | 1  | 1  | 9  | 15 | 10 | 10 | 11 | 12 | 13 | 8  | 5  | 3  | 4  | 3  | 1  | 8  | 5    |
| 16   | 6  | 7  | 3  | 5  | 4  | 6  | 9  | 7  | 13 | 18 | 19 | 19 | 17 | 17 | 17 | 16 | 17 | 11 | 5  | 5  | 3  | 5  | 5  | 4  | 10   |
| 17   | 11 | 11 | 13 | 11 | 11 | 11 | 4  | 6  | 0  | 1  | 2  | 10 | 9  | 12 | 11 | 10 | 5  | 4  | 2  | 2  | 6  | 2  | 2  | 5  | 6    |
| 18   | 5  | 1  | 5  | 4  | 2  | 6  | 3  | 2  | 5  | 11 | 12 | 12 | 9  | 9  | 7  | 7  | 10 | 10 | 10 | 11 | 6  | 2  | 3  | 3  | 6    |
| 19   | 2  | 0  | 5  | 4  | 0  | 5  | 3  | 6  | 9  | 15 | 15 | 14 | 15 | 16 | 16 | 16 | 17 | 17 | 12 | 10 | 10 | 10 | 15 | 13 | 11   |
| 20   | 19 | 12 | 6  | 9  | 14 | 11 | 6  | 7  | 6  | 5  | 6  | 4  | 5  | 3  | 6  | 5  | 5  | 6  | 4  | 4  | 8  | 6  | 4  | 7  | 7    |
| 21   | 3  | 4  | 3  | 1  | 5  | 2  | 2  | 1  | 2  | 4  | 3  | 4  | 6  | 8  | 8  | 8  | 6  | 7  | 7  | 7  | 3  | 2  | 3  | 2  | 4    |
| 22   | 3  | 3  | 3  | 1  | 1  | 2  | 3  | 2  | 3  | 1  | 1  | 3  | 3  | 4  | 3  | 4  | 5  | 5  | 7  | 7  | 7  | 2  | 1  | 1  | 3    |
| 23   | 1  | 1  | 5  | 6  | 6  | 6  | 7  | 4  | 7  | 10 | 15 | 14 | 12 | 12 | 16 | 15 | 13 | 11 | 7  | 7  | 7  | 7  | 7  | 10 | 9    |
| 24   | 11 | 13 | 22 | 19 | 21 | 21 | 17 | 13 | 17 | 21 | 18 | 18 | 20 | 20 | 19 | 20 | 16 | 13 | 10 | 10 | 10 | 13 | 15 | 19 | 13   |
| 25   | 5  | 4  | 5  | 2  | 3  | 2  | 1  | 3  | 1  | 3  | 6  | 7  | 3  | 1  | 2  | 5  | 4  | 4  | 0  | 3  | 2  | 1  | 2  | 3  | 14   |
| 26   | 0  | 3  | 3  | 2  | 2  | 1  | 0  | 1  | 2  | 3  | 3  | 3  | 4  | 6  | 8  | 11 | 9  | 10 | 10 | 11 | 13 | 11 | 10 | 1  | 3    |
| 27   | 0  | 3  | 3  | 2  | 2  | 2  | 1  | 1  | 2  | 3  | 2  | 3  | 4  | 6  | 11 | 12 | 13 | 3  | 3  | 5  | 3  | 4  | 5  | 2  | 6    |
| 28   | 12 | 16 | 0  | 15 | 10 | 8  | 3  | 11 | 14 | 11 | 14 | 11 | 11 | 12 | 15 | 12 | 13 | 5  | 10 | 5  | 3  | 4  | 3  | 2  | 9    |
| 29   | 3  | 3  | 3  | 2  | 4  | 3  | 3  | 4  | 6  | 10 | 9  | 13 | 11 | 16 | 14 | 12 | 12 | 8  | 14 | 9  | 4  | 2  | 3  | 5  | 7    |
| 30   | 0  | 2  | 2  | 1  | 0  | 1  | 0  | 1  | 3  | 4  | 3  | 4  | 5  | 6  | 9  | 9  | 9  | 8  | 5  | 4  | 6  | 3  | 2  | 3  | 4    |
| 31   | 0  | 2  | 3  | 2  | 1  | 5  | 2  | 1  | 5  | 14 | 16 | 18 | 16 | 16 | 17 | 18 | 18 | 16 | 9  | 7  | 6  | 3  | 3  | 4  | 9    |
| MEAN | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 10 | 12 | 11 | 12 | 12 | 12 | 11 | 9  | 7  | 6  | 6  | 5  | 5  | 5  | 5    |

TOTAL NUMBER OF OBSERVATIONS = 8753 MEAN = 8.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND SPEED AT 100 FEET (MPH)  
TRAILER NO. - 23 PERIOD( 3/ 1/77 TO 3/31/77)

hour

| DAY   | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1     | 7  | 6  | 6  | 3  | 11 | 3  | 10 | 12 | 10 | 18 | 26 | 29 | 22 | 19 | 18 | 16 | 16 | 11 | 9  | 7  | 4  | 5  | 5  | 10 | 13   |
| 2     | 7  | 9  | 6  | 3  | 1  | 5  | 6  | 4  | 3  | 6  | 8  | 9  | 9  | 12 | 11 | 10 | 10 | 10 | 8  | 6  | 5  | 5  | 5  | 4  | 7    |
| 3     | 4  | 4  | 4  | 4  | 2  | 2  | 4  | 2  | 2  | 4  | 6  | 9  | 7  | 7  | 6  | 3  | 2  | 4  | 2  | 2  | 1  | 1  | 1  | 1  | 4    |
| 4     | 2  | 0  | 2  | 2  | 0  | 0  | 0  | 0  | 0  | 2  | 9  | 10 | 12 | 13 | 12 | 11 | 11 | 8  | 5  | 6  | 4  | 3  | 4  | 5  |      |
| 5     | 2  | 0  | 1  | 2  | 2  | 2  | 1  | 4  | 4  | 1  | 6  | 6  | 5  | 5  | 2  | 3  | 6  | 3  | 7  | 6  | 2  | 1  | 1  | 5  |      |
| 6     | 3  | 1  | 1  | 2  | 3  | 4  | 2  | 4  | 2  | 6  | 8  | 7  | 8  | 8  | 8  | 10 | 3  | 13 | 7  | 3  | 4  | 7  | 7  | 6  |      |
| 7     | 12 | 11 | 6  | 6  | 4  | 4  | 5  | 4  | 3  | 4  | 13 | 19 | 19 | 16 | 20 | 13 | 11 | 5  | 13 | 14 | 8  | 6  | 6  | 10 |      |
| 8     | 6  | 7  | 7  | 6  | 7  | 7  | 10 | 13 | 23 | 25 | 25 | 20 | 19 | 15 | 10 | 7  | 7  | 3  | 6  | 6  | 3  | 2  | 5  | 11 |      |
| 9     | 5  | 5  | 6  | 6  | 21 | 24 | 26 | 26 | 25 | 16 | 23 | 26 | 20 | 22 | 25 | 14 | 22 | 15 | 12 | 5  | 9  | 9  | 9  | 14 |      |
| 10    | 7  | 12 | 14 | 9  | 12 | 17 | 21 | 16 | 19 | 19 | 16 | 21 | 24 | 28 | 30 | 21 | 21 | 17 | 16 | 18 | 20 | 18 | 19 | 19 |      |
| 11    | 16 | 15 | 17 | 17 | 17 | 14 | 15 | 10 | 14 | 17 | 14 | 20 | 20 | 18 | 17 | 15 | 17 | 13 | 9  | 7  | 2  | 1  | 1  | 14 |      |
| 12    | 1  | 0  | 0  | 0  | 1  | 2  | 2  | 3  | 1  | 3  | 3  | 5  | 10 | 9  | 7  | 9  | 13 | 7  | 4  | 7  | 13 | 11 | 12 | 6  |      |
| 13    | 15 | 13 | 17 | 27 | 27 | 20 | 23 | 0  | 4  | 4  | 5  | 10 | 8  | 6  | 10 | 6  | 7  | 12 | 9  | 6  | 2  | 4  | 6  | 18 |      |
| 14    | 5  | 5  | 5  | 4  | 2  | 5  | 3  | 0  | 4  | 4  | 5  | 10 | 11 | 12 | 13 | 10 | 15 | 5  | 5  | 8  | 2  | 1  | 2  | 5  |      |
| 15    | 5  | 5  | 2  | 1  | 0  | 1  | 0  | 0  | 1  | 2  | 10 | 17 | 11 | 12 | 13 | 14 | 15 | 6  | 3  | 4  | 1  | 2  | 12 | 6  |      |
| 16    | 11 | 10 | 5  | 8  | 6  | 7  | 10 | 9  | 15 | 20 | 21 | 21 | 19 | 19 | 20 | 13 | 20 | 8  | 9  | 5  | 4  | 7  | 7  | 12 |      |
| 17    | 14 | 15 | 10 | 14 | 13 | 5  | 3  | 0  | 0  | 1  | 3  | 12 | 9  | 14 | 13 | 5  | 6  | 2  | 3  | 3  | 2  | 3  | 3  | 8  |      |
| 18    | 7  | 1  | 3  | 5  | 3  | 7  | 4  | 3  | 6  | 13 | 14 | 14 | 10 | 10 | 21 | 12 | 11 | 13 | 13 | 8  | 1  | 3  | 2  | 7  |      |
| 19    | 2  | 4  | 10 | 6  | 12 | 10 | 9  | 9  | 11 | 18 | 16 | 16 | 17 | 19 | 21 | 20 | 20 | 16 | 13 | 15 | 13 | 19 | 16 | 14 |      |
| 20    | 16 | 16 | 11 | 12 | 17 | 13 | 10 | 8  | 7  | 6  | 7  | 4  | 3  | 4  | 7  | 7  | 5  | 6  | 4  | 9  | 8  | 6  | 10 | 9  |      |
| 21    | 5  | 6  | 4  | 2  | 6  | 3  | 1  | 1  | 2  | 5  | 3  | 4  | 6  | 9  | 9  | 8  | 7  | 10 | 10 | 4  | 3  | 2  | 3  | 5  |      |
| 22    | 2  | 4  | 1  | 1  | 3  | 2  | 3  | 2  | 3  | 2  | 2  | 3  | 3  | 4  | 4  | 6  | 6  | 8  | 9  | 10 | 6  | 2  | 3  | 4  |      |
| 23    | 1  | 5  | 9  | 11 | 11 | 9  | 9  | 6  | 6  | 11 | 18 | 16 | 16 | 14 | 19 | 13 | 15 | 10 | 11 | 12 | 11 | 12 | 14 | 11 |      |
| 24    | 13 | 17 | 10 | 12 | 14 | 16 | 14 | 10 | 21 | 25 | 22 | 21 | 22 | 23 | 22 | 15 | 18 | 13 | 13 | 13 | 16 | 18 | 23 | 16 |      |
| 25    | 26 | 26 | 26 | 22 | 24 | 24 | 20 | 16 | 21 | 25 | 21 | 23 | 22 | 16 | 18 | 9  | 13 | 15 | 6  | 3  | 4  | 2  | 4  | 17 |      |
| 26    | 5  | 5  | 6  | 3  | 3  | 2  | 1  | 4  | 1  | 3  | 7  | 9  | 4  | 1  | 3  | 4  | 4  | 0  | 1  | 1  | 0  | 0  | 1  | 3  |      |
| 27    | 1  | 3  | 2  | 1  | 1  | 0  | 0  | 0  | 2  | 3  | 3  | 3  | 5  | 7  | 9  | 12 | 11 | 13 | 15 | 17 | 15 | 13 | 2  | 6  |      |
| 28    | 15 | 15 | 6  | 16 | 11 | 9  | 5  | 13 | 16 | 13 | 16 | 12 | 12 | 14 | 17 | 4  | 15 | 12 | 6  | 4  | 5  | 3  | 5  | 11 |      |
| 29    | 5  | 4  | 4  | 2  | 5  | 4  | 3  | 4  | 7  | 11 | 10 | 14 | 12 | 18 | 15 | 14 | 14 | 17 | 13 | 6  | 3  | 5  | 10 | 8  |      |
| 30    | 7  | 4  | 3  | 3  | 1  | 1  | 1  | 1  | 3  | 4  | 3  | 4  | 5  | 6  | 10 | 9  | 10 | 6  | 6  | 7  | 4  | 2  | 2  | 5  |      |
| 31    | 4  | 1  | 2  | 1  | 2  | 7  | 3  | 1  | 6  | 17 | 16 | 21 | 16 | 18 | 19 | 19 | 20 | 12 | 11 | 8  | 4  | 5  | 4  | 10 |      |
| TOTAL | 7  | 7  | 7  | 7  | 7  | 8  | 7  | 6  | 7  | 10 | 12 | 13 | 13 | 14 | 14 | 13 | 13 | 11 | 9  | 8  | 6  | 6  | 6  | 7  |      |

Total number of observations = 6753      Mean = 10.

: 100-CAL'S CALCULATION DURING THE HOUR

DAILY VARIATION OF WIND SPEED AT 200 FEET (MPH)  
PERIOD 3/17/77 TO 3/31/77

hour

| DAY  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 2    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 3    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 4    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 5    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 6    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 7    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 8    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 9    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 10   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 11   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 12   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 13   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 14   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 15   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 16   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 17   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 18   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 19   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 20   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 21   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 22   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 23   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 24   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 25   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 26   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 27   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 28   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 29   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 30   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 31   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| MEAN | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |

TOTAL NUMBER OF OBSERVATIONS = 6755 MEAN = 11.

30 LOCATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET  
TRAILER NO. - 25 PERIOD 3/ 17/ 16 3/31/77)

hour

| DAY   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1     | 116 | 81  | 51  | 99  | 105 | 132 | 164 | 161 | 109 | 156 | 187 | 187 | 200 | 183 | 192 | 198 | 240 | 214 | 199 | 205 | 257 | 305 | 290 | 302 | 177  |
| 2     | 292 | 307 | 285 | 327 | 262 | 292 | 298 | 298 | 332 | 291 | 292 | 291 | 305 | 299 | 299 | 289 | 292 | 283 | 304 | 298 | 303 | 281 | 276 | 271 | 294  |
| 3     | 280 | 267 | 279 | 267 | 263 | 269 | 293 | 275 | 314 | 307 | 312 | 317 | 307 | 337 | 359 | 317 | 307 | 321 | 301 | 228 | 223 | 223 | 203 | 191 | 285  |
| 4     | 171 | 100 | 241 | 155 | 151 | 211 | 174 | 122 | 87  | 317 | 330 | 328 | 342 | 346 | 356 | 336 | 347 | 340 | 296 | 258 | 243 | 225 | 214 | 193 | 268  |
| 5     | 228 | 176 | 214 | 199 | 228 | 183 | 205 | 148 | 125 | 35  | 328 | 317 | 324 | 339 | 349 | 314 | 311 | 337 | 260 | 222 | 204 | 217 | 118 | 76  | 242  |
| 6     | 191 | 95  | 108 | 94  | 75  | 96  | 82  | 72  | 35  | 215 | 202 | 198 | 201 | 207 | 196 | 192 | 201 | 190 | 183 | 125 | 85  | 88  | 161 | 127 | 144  |
| 7     | 173 | 145 | 100 | 124 | 77  | 86  | 95  | 67  | 91  | 246 | 196 | 190 | 194 | 200 | 209 | 211 | 201 | 184 | 147 | 191 | 176 | 165 | 109 | 58  | 154  |
| 8     | 118 | 166 | 35  | 71  | 69  | 65  | 192 | 117 | 109 | 190 | 195 | 195 | 206 | 235 | 240 | 315 | 332 | 323 | 175 | 207 | 276 | 192 | 250 | 120 | 189  |
| 9     | 36  | 202 | 118 | 74  | 175 | 177 | 181 | 177 | 176 | 181 | 183 | 190 | 191 | 204 | 215 | 207 | 204 | 198 | 183 | 177 | 129 | 191 | 260 | 306 | 183  |
| 10    | 315 | 322 | 356 | 342 | 348 | 345 | 343 | 348 | 354 | 338 | 323 | 316 | 330 | 335 | 336 | 337 | 336 | 341 | 337 | 350 | 339 | 344 | 341 | 346 | 336  |
| 11    | 355 | 348 | 347 | 327 | 335 | 333 | 319 | 314 | 334 | 345 | 336 | 352 | 359 | 360 | 354 | 360 | 360 | 341 | 21  | 37  | 56  | 179 | 210 | 211 | 347  |
| 12    | 169 | 267 | 166 | 199 | 201 | 201 | 95  | 69  | 56  | 62  | 65  | 168 | 154 | 164 | 214 | 175 | 166 | 179 | 151 | 90  | 113 | 128 | 114 | 95  | 146  |
| 13    | 141 | 110 | 126 | 112 | 174 | 172 | 183 |     | 308 | 310 | 324 | 310 | 324 | 307 | 260 | 210 | 204 | 206 | 198 | 198 | 211 | 317 | 248 | 306 | 193  |
| 14    | 241 | 229 | 227 | 232 | 204 | 223 | 167 | 26  | 16  | 11  | 196 | 193 | 189 | 181 | 188 | 205 | 195 | 176 | 90  | 194 | 239 | 224 | 182 | 171 | 247  |
| 15    | 107 | 127 | 211 | 70  | 215 | 185 | 216 | 81  | 16  | 164 | 162 | 197 | 190 | 194 | 197 | 199 | 207 | 176 | 180 | 162 | 208 | 163 | 64  | 173 | 171  |
| 16    | 131 | 135 | 100 | 142 | 111 | 129 | 156 | 147 | 164 | 162 | 197 | 190 | 194 | 197 | 199 | 207 | 213 | 229 | 231 | 211 | 203 | 165 | 178 | 220 | 178  |
| 17    | 215 | 230 | 251 | 266 | 271 | 270 | 283 | 95  | 11  | 291 | 259 | 246 | 247 | 209 | 214 | 245 | 79  |     |     |     |     |     |     |     | 252  |
| 18    | 154 | 155 | 156 | 155 | 155 | 150 | 156 | 155 | 155 | 161 | 280 | 279 | 258 | 276 |     |     | 272 | 266 | 284 | 302 | 29  | 191 | 210 | 208 | 207  |
| 19    | 191 | 208 | 213 | 197 | 211 | 199 | 155 | 190 | 199 | 206 | 192 | 198 | 200 | 203 | 216 | 204 | 207 | 197 | 177 | 181 | 200 | 228 | 215 | 224 | 200  |
| 20    | 215 | 225 | 240 | 277 | 270 | 299 | 28  | 40  | 23  | 22  | 4   | 14  | 52  | 322 | 338 | 267 | 3   | 74  | 117 | 192 | 300 | 321 | 329 | 332 | 332  |
| 21    | 48  | 179 | 205 | 185 | 217 | 338 | 145 | 62  | 36  | 340 | 12  | 127 | 255 | 229 | 206 | 200 | 229 | 220 | 198 | 192 | 57  | 63  | 65  | 83  | 166  |
| 22    | 70  | 98  | 73  | 74  | 8   | 61  | 88  | 95  | 62  | 159 | 172 | 56  | 22  | 33  | 12  | 209 | 194 | 162 | 165 | 196 | 172 | 176 | 229 | 166 | 118  |
| 23    | 99  | 61  | 126 | 165 | 190 | 171 | 161 | 121 | 133 | 166 | 186 | 194 | 203 | 199 | 212 | 218 | 221 | 204 | 192 | 205 | 205 | 201 | 189 | 177 | 178  |
| 24    | 165 | 169 | 143 | 130 | 193 | 174 | 163 | 163 |     |     |     | 192 | 195 | 211 | 205 | 193 | 187 | 193 | 191 | 181 | 154 | 173 | 175 | 176 | 180  |
| 25    | 176 | 167 | 191 | 192 | 165 | 188 | 188 | 202 | 199 | 199 | 195 | 196 | 210 | 190 | 195 | 178 | 175 | 177 | 182 | 276 | 115 | 81  | 299 | 320 | 192  |
| 26    | 332 | 306 | 291 | 272 | 262 | 195 | 157 | 99  | 60  | 342 | 325 | 312 | 288 | 66  | 31  | 336 | 323 | 303 | 126 | 214 | 174 | 213 | 219 | 269 | 290  |
| 27    | 162 | 232 | 231 | 179 | 227 | 165 | 264 | 21  | 101 | 62  | 112 | 141 | 250 | 210 | 196 | 186 | 197 | 192 | 201 | 192 | 188 | 183 | 233 |     | 192  |
| 28    | 270 | 236 | 352 | 290 | 262 | 265 | 226 | 255 | 257 | 276 | 266 | 271 | 272 | 260 | 260 | 262 | 321 | 285 | 271 | 354 | 155 | 200 | 159 | 185 | 264  |
| 29    | 160 | 219 | 255 | 156 | 217 | 177 | 111 | 200 | 298 | 268 | 273 | 252 | 277 | 227 | 259 | 230 | 223 |     | 215 | 213 | 235 | 190 | 186 | 207 | 220  |
| 30    | 210 | 200 | 193 | 251 | 40  | 214 | 206 | 82  | 2   | 24  | 5   | 360 | 95  | 150 | 171 | 158 | 175 | 183 | 188 | 212 | 195 | 140 | 150 | 225 | 176  |
| 31    | 229 | 125 | 137 | 105 | 126 | 178 | 179 | 87  | 210 | 224 | 226 | 226 | 217 | 228 | 220 | 232 | 221 | 232 | 227 | 223 | 274 | 267 | 257 | 234 | 210  |
| STAT. | 176 | 182 | 187 | 177 | 201 | 191 | 172 | 106 | 64  | 279 | 253 | 237 | 206 | 230 | 234 | 235 | 235 | 227 | 199 | 208 | 198 | 197 | 206 | 205 |      |

TOTAL SUM OF OBSERVATIONS = 8669 MEAN = 208.

INDICATES CALCULATION DURING THE HOUR



DIURNAL VARIATION OF WIND DIRECTION AT 50 FEET  
TRAILER NO. - 25 PERIOD 3/ 1/77 TO 5/31/77

hour

| DAY | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1   | 120 | 91  | 66  | 105 | 105 | 153 | 154 | 157 | 109 | 158 | 190 | 189 | 200 | 186 | 192 | 201 | 241 | 216 | 202 | 209 | 235 | 303 | 290 | 302 | 177  |
| 2   | 291 | 507 | 262 | 326 | 280 | 291 | 299 | 290 | 326 | 289 | 290 | 289 | 302 | 297 | 299 | 280 | 292 | 282 | 303 | 500 | 503 | 281 | 277 | 272 | 293  |
| 3   | 279 | 285 | 276 | 269 | 279 | 269 | 290 | 275 | 308 | 304 | 311 | 314 | 307 | 358 | 359 | 315 | 301 |     |     |     |     |     |     |     | 297  |
| 4   | 209 | 199 | 291 | 165 | 197 | 158 | 198 | 145 | 125 | 24  | 526 | 516 | 524 | 338 | 341 | 306 | 310 | 331 | 340 | 280 | 263 | 232 | 213 | 170 | 311  |
| 5   | 201 | 11  | 119 | 110 | 95  | 112 | 105 | 84  | 42  | 200 | 202 | 197 | 202 | 208 | 196 | 193 | 202 | 192 | 183 | 205 | 187 | 252 | 107 | 87  | 246  |
| 6   | 179 | 184 | 110 | 146 | 105 | 90  | 103 | 80  | 120 | 257 | 196 | 192 | 190 | 202 | 209 | 212 | 203 | 186 | 171 | 193 | 182 | 169 | 115 | 61  | 153  |
| 7   | 125 | 180 | 95  | 73  | 66  | 83  | 178 | 148 | 191 | 195 | 196 | 198 | 209 | 254 | 240 | 316 | 335 | 328 | 156 | 185 | 174 | 177 | 112 | 138 | 168  |
| 8   | 157 | 221 | 129 | 86  | 161 | 179 | 183 | 178 | 171 | 183 | 189 | 193 | 195 | 207 | 214 | 211 | 206 | 200 | 186 | 181 | 144 | 187 | 261 | 306 | 188  |
| 9   | 310 | 524 | 359 | 341 | 345 | 346 | 343 | 349 | 355 | 339 | 323 | 316 | 330 | 336 | 336 | 337 | 356 | 341 | 337 | 329 | 358 | 340 | 343 | 348 | 357  |
| 10  | 355 | 540 | 347 | 327 | 335 | 334 | 319 | 314 | 334 | 340 | 358 | 353 | 357 | 359 | 354 | 360 | 8   | 13  | 19  | 51  | 50  | 150 | 204 | 183 | 349  |
| 11  | 177 | 196 | 210 | 167 | 169 | 192 | 151 | 92  | 61  | 66  | 82  | 174 | 150 | 185 | 214 | 177 | 168 | 183 | 152 | 102 | 125 | 126 | 110 | 94  | 149  |
| 12  | 147 | 113 | 127 | 174 | 176 | 173 | 185 |     |     |     |     |     | 197 | 195 | 209 | 212 | 205 | 209 | 204 | 209 | 250 | 317 | 262 | 308 | 198  |
| 13  | 255 | 227 | 233 | 236 | 217 | 213 | 188 | 21  | 507 | 508 | 523 | 511 | 523 | 307 | 283 | 272 | 243 | 239 | 100 | 181 | 246 | 253 | 169 | 158 | 251  |
| 14  | 110 | 139 | 209 | 45  | 221 | 192 | 258 | 160 | 21  | 10  | 208 | 196 | 192 | 184 | 190 | 208 | 199 | 179 | 183 | 160 | 205 | 210 | 80  | 170 | 182  |
| 15  | 153 | 139 | 128 | 145 | 117 | 136 | 152 | 156 | 185 | 185 | 198 | 193 | 196 | 199 | 202 | 207 | 216 | 231 | 232 | 204 | 186 | 160 | 176 | 218 | 180  |
| 16  | 213 | 235 | 251 | 205 | 206 | 271 | 274 | 103 | 6   | 280 | 259 | 247 | 248 | 212 | 216 | 234 |     |     |     |     |     |     |     |     | 251  |
| 17  | 222 | 150 | 132 | 132 | 152 | 201 | 265 | 202 | 265 | 274 | 279 | 279 | 259 | 277 |     | 273 | 270 | 286 | 287 | 304 | 28  | 182 | 212 | 200 | 247  |
| 18  | 178 | 197 | 206 | 196 | 200 | 197 | 186 | 192 | 203 | 209 | 195 | 201 | 203 | 207 | 218 | 207 | 211 | 201 | 181 | 185 | 202 | 228 | 218 | 225 | 201  |
| 19  | 219 | 228 | 236 | 277 | 268 | 296 | 28  | 42  | 25  | 25  | 5   | 10  | 52  | 325 | 336 | 269 | 7   | 74  | 115 | 191 | 301 | 322 | 327 | 333 | 332  |
| 20  | 20  | 155 | 162 | 168 | 215 | 5   | 145 | 73  | 28  | 559 | 6   | 145 | 257 | 236 | 210 | 201 | 227 | 221 | 195 | 192 | 93  | 96  | 88  | 105 | 161  |
| 21  | 27  | 106 | 65  | 95  | 252 | 119 | 112 | 109 | 91  | 183 | 201 | 48  | 300 | 45  | 22  | 206 | 190 | 162 | 161 | 176 | 171 | 174 | 217 | 190 | 139  |
| 22  | 141 | 167 | 163 | 162 | 172 | 164 | 161 | 126 | 153 | 170 | 140 | 199 | 204 | 202 | 216 | 222 | 224 | 210 | 196 | 197 | 196 | 188 | 187 | 177 | 181  |
| 23  | 169 | 169 | 155 | 190 | 190 | 177 | 166 | 164 |     |     | 195 | 201 | 215 | 209 | 194 | 191 | 198 | 198 | 196 | 184 | 155 | 173 | 176 | 177 | 182  |
| 24  | 179 | 190 | 192 | 195 | 188 | 189 | 190 | 202 | 200 | 202 | 198 | 200 | 213 | 192 | 196 | 178 | 177 | 179 | 185 | 263 | 119 | 86  | 291 | 317 | 194  |
| 25  | 357 | 290 | 291 | 274 | 264 | 212 | 136 | 97  | 253 | 352 | 321 | 313 | 267 | 63  | 30  | 334 | 321 | 299 | 152 | 191 | 149 | 189 | 196 | 251 | 275  |
| 26  | 134 | 239 | 235 | 182 | 219 | 183 | 10  | 354 | 106 | 41  | 115 | 153 | 255 | 211 | 199 | 191 | 200 | 194 | 206 | 194 | 192 | 187 | 230 |     | 190  |
| 27  | 271 | 290 | 316 | 289 | 265 | 266 | 235 | 255 | 256 | 270 | 265 | 272 | 273 | 261 | 260 | 324 | 284 |     | 274 | 353 | 150 | 191 | 146 | 174 | 264  |
| 28  | 197 | 204 | 215 | 148 | 210 | 189 | 115 | 203 | 297 | 270 | 275 | 253 | 275 | 228 | 240 | 251 | 226 |     | 219 | 217 | 230 | 213 | 189 | 201 | 220  |
| 29  | 204 | 200 | 193 | 216 | 18  | 192 | 186 | 73  | 500 | 8   | 1   | 357 | 106 | 144 | 165 | 152 | 167 | 174 | 181 | 185 | 178 | 119 | 131 | 224 | 164  |
| 30  | 228 | 21  | 116 | 59  | 46  | 167 | 183 | 62  | 207 | 219 | 220 | 223 | 212 | 223 | 216 | 226 | 216 | 224 | 223 | 225 | 271 | 275 | 260 | 242 | 211  |
| 31  | 167 | 195 | 187 | 171 | 202 | 167 | 178 | 123 | 20  | 269 | 260 | 259 | 241 | 252 | 255 | 235 | 238 | 225 | 198 | 201 | 187 | 195 | 193 | 200 | MEAN |

TOTAL NUMBER OF OBSERVATIONS = 8451 MEAN = 210.

; INDICATES CALIBRATION DURING THE HOUR

DAILY VARIATION OF WIND DIRECTION AT 100 FEET  
TABLE NO. - 23 PERIOD 5/ 1/77 TO 3/31/77

WIND

|      | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 131 | 115 | 105 | 110 | 135 | 140 | 149 | 115 | 102 | 190 | 194 | 203 | 189 | 196 | 206 | 205 | 220 | 220 | 209 | 216 | 240 | 309 | 298 | 308 | 180  |
| 2    | 501 | 515 | 300 | 550 | 295 | 501 | 509 | 305 | 355 | 296 | 295 | 295 | 308 | 305 | 306 | 295 | 298 | 288 | 512 | 510 | 315 | 294 | 291 | 288 | 303  |
| 3    | 295 | 298 | 292 | 205 | 503 | 296 | 511 | 310 | 525 | 314 | 521 | 522 | 316 | 345 | 5   | 529 | 515 | 532 | 541 | 295 | 275 | 244 | 267 | 265 | 506  |
| 4    | 222 | 181 | 205 | 255 | 207 | 200 | 255 | 245 | 257 | 514 | 539 | 536 | 349 | 351 | 1   | 546 | 555 | 547 | 535 | 516 | 295 | 270 | 244 | 159 | 290  |
| 5    | 100 | 550 | 307 | 112 | 157 | 160 | 25  | 159 | 124 | 41  | 555 | 525 | 555 | 506 | 349 | 528 | 519 | 541 | 270 | 218 | 194 | 246 | 157 | 166 | 325  |
| 6    | 250 | 520 | 67  | 121 | 116 | 157 | 131 | 116 | 112 | 180 | 203 | 201 | 200 | 211 | 197 | 198 | 205 | 194 | 185 | 165 | 182 | 140 | 182 | 181 | 175  |
| 7    | 107 | 167 | 155 | 165 | 130 | 132 | 132 | 152 | 158 | 257 | 200 | 195 | 200 | 205 | 212 | 210 | 206 | 195 | 215 | 205 | 190 | 183 | 127 | 76  | 177  |
| 8    | 155 | 194 | 156 | 84  | 88  | 82  | 169 | 157 | 192 | 196 | 199 | 202 | 212 | 257 | 240 | 520 | 555 | 536 | 120 | 160 | 165 | 149 | 153 | 155 | 170  |
| 9    | 207 | 195 | 140 | 127 | 184 | 183 | 186 | 181 | 174 | 186 | 192 | 196 | 200 | 212 | 217 | 215 | 211 | 205 | 191 | 164 | 175 | 205 | 267 | 511 | 194  |
| 10   | 512 | 527 | 550 | 507 | 552 | 551 | 549 | 555 | 559 | 545 | 550 | 524 | 556 | 541 | 542 | 545 | 542 | 546 | 544 | 556 | 544 | 551 | 548 | 554 | 542  |
| 11   | 559 | 559 | 554 | 554 | 541 | 542 | 550 | 522 | 541 | 552 | 544 | 559 | 2   | 4   | 500 | 5   | 14  | 19  | 24  | 51  | 40  | 51  | 240 | 152 | 557  |
| 12   | 109 | 142 | 272 | 525 | 197 | 165 | 182 | 120 | 88  | 76  | 88  | 180 | 157 | 191 | 216 | 182 | 171 | 188 | 151 | 125 | 140 | 128 | 115 | 100 | 152  |
| 13   | 155 | 120 | 155 | 177 | 178 | 174 | 188 |     |     |     |     |     | 202 | 201 | 215 | 216 | 210 | 215 | 211 | 220 | 254 | 323 | 289 | 320 | 204  |
| 14   | 291 | 204 | 264 | 275 | 255 | 254 | 217 | 27  | 315 | 516 | 552 | 518 | 529 | 514 | 291 | 279 | 252 | 248 | 99  | 178 | 261 | 295 | 140 | 152 | 276  |
| 15   | 114 | 155 | 250 | 100 | 111 | 240 | 321 | 166 | 20  | 50  | 158 | 199 | 196 | 160 | 192 | 212 | 201 | 181 | 185 | 165 | 208 | 209 | 154 | 170 | 175  |
| 16   | 151 | 141 | 117 | 136 | 117 | 159 | 154 | 166 | 109 | 190 | 204 | 199 | 202 | 205 | 207 | 212 | 220 | 237 | 245 | 210 | 317 | 156 | 177 | 204 | 186  |
| 17   | 217 | 242 | 258 | 268 | 290 | 277 | 280 | 101 | 14  | 501 | 255 | 255 | 255 | 216 | 225 | 249 | 99  | 555 |     |     |     |     |     |     | 264  |
| 18   | 257 | 261 | 261 | 261 | 260 | 264 | 276 | 277 | 274 | 277 | 252 | 285 | 280 | 282 |     | 279 | 277 | 295 | 295 | 311 | 52  | 18  | 249 | 211 | 276  |
| 19   | 179 | 201 | 205 | 202 | 205 | 204 | 200 | 200 | 209 | 214 | 200 | 205 | 208 | 212 | 222 | 211 | 216 | 205 | 186 | 195 | 205 | 231 | 224 | 231 | 206  |
| 20   | 226 | 234 | 245 | 282 | 272 | 302 | 35  | 49  | 54  | 55  | 11  | 11  | 0   | 550 | 340 | 270 | 12  | 80  | 115 | 185 | 319 | 532 | 552 | 541 | 359  |
| 21   | 29  | 146 | 156 | 124 | 226 | 175 | 194 | 105 | 11  | 540 | 557 | 168 | 264 | 236 | 222 | 298 | 255 | 226 | 198 | 197 | 171 | 151 | 158 | 170 | 188  |
| 22   | 109 | 128 | 156 | 167 | 195 | 172 | 146 | 151 | 96  | 202 | 259 | 56  | 16  | 58  | 51  | 225 | 199 | 164 | 157 | 165 | 160 | 172 | 183 | 193 | 158  |
| 23   | 190 | 160 | 161 | 146 | 155 | 157 | 150 | 152 | 159 | 175 | 192 | 201 | 200 | 207 | 218 | 225 | 227 | 212 | 198 | 194 | 185 | 189 | 188 | 181 | 182  |
| 24   | 177 | 170 | 170 | 175 | 168 | 176 | 168 | 165 |     |     | 196 | 203 | 210 | 210 | 201 | 201 | 197 | 200 | 204 | 191 | 162 | 179 | 162 | 183 | 187  |
| 25   | 155 | 190 | 197 | 201 | 195 | 195 | 197 | 209 | 208 | 208 | 205 | 204 | 217 | 197 | 206 | 182 | 183 | 186 | 191 | 502 | 125 | 91  | 299 | 328 | 199  |
| 26   | 6   | 511 | 530 | 287 | 275 | 221 | 129 | 95  | 04  | 542 | 525 | 522 | 296 | 57  | 55  | 545 | 550 | 513 | 19  | 176 | 258 | 319 | 525 | 255 | 525  |
| 27   | 168 | 262 | 295 | 250 | 260 | 189 | 42  | 12  | 107 | 65  | 112 | 141 | 250 | 216 | 206 | 196 | 205 | 199 | 213 | 200 | 196 | 195 | 229 |     | 199  |
| 28   | 278 | 295 | 547 | 296 | 292 | 274 | 255 | 261 | 262 | 274 | 271 | 276 | 279 | 267 | 268 | 275 | 550 | 287 | 277 | 555 | 126 | 184 | 269 | 156 | 277  |
| 29   | 226 | 215 | 229 | 155 | 200 | 184 | 158 | 205 | 295 | 275 | 275 | 257 | 277 | 252 | 245 | 255 | 228 |     | 219 | 218 | 257 | 220 | 198 | 201 | 224  |
| 30   | 212 | 214 | 201 | 201 | 121 | 173 | 166 | 76  | 4   | 560 | 22  | 3   | 94  | 155 | 165 | 152 | 165 | 171 | 175 | 165 | 142 | 102 | 115 | 211 | 152  |
| 31   | 209 | 500 | 95  | 1   | 205 | 172 | 201 | 11  | 204 | 217 | 219 | 222 | 211 | 225 | 215 | 226 | 214 | 225 | 225 | 229 | 279 | 295 | 278 | 269 | 252  |
| MEAN | 205 | 216 | 216 | 200 | 206 | 199 | 169 | 142 | 59  | 279 | 262 | 203 | 208 | 257 | 258 | 241 | 240 | 237 | 208 | 207 | 210 | 215 | 220 | 209 |      |

TOTAL NUMBER OF OBSERVATIONS = 6692 MEAN = 222.

STATISTICS CALCULATION INCLUDING THE HOUR



DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET  
TRAILER NO. - 25 PERIOD 3/ 1/77 TO 3/31/77

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
| 1    | 105  | 105 | 131 | 131 | 116 | 144 | 143 | 146 | 122 | 167 | 196 | 198 | 207 | 193 | 195 | 210 | 247 | 224 | 216 | 222 | 208 | 514 | 305 | 310 | 187  |
| 2    | 306  | 516 | 513 | 505 | 306 | 305 | 512 | 304 | 550 | 293 | 294 | 294 | 306 | 302 | 304 | 295 | 298 | 287 | 513 | 518 | 521 | 302 | 299 | 296 | 305  |
| 3    | 502  | 503 | 296 | 292 | 315 | 308 | 523 | 329 | 330 | 516 | 323 | 523 | 319 | 345 | 3   | 331 | 314 | 333 | 350 | 328 | 513 | 269 | 310 | 284 | 317  |
| 4    | 256  | 253 | 296 | 279 | 267 | 306 | 521 | 331 | 278 | 318 | 339 | 337 | 350 | 352 | 360 | 349 | 555 | 350 | 343 | 355 | 316 | 295 | 284 | 160 | 315  |
| 5    | 119  | 62  | 15  | 105 | 132 | 185 | 87  | 129 | 114 | 35  | 336 | 328 | 337 | 349 | 352 | 332 | 319 | 332 | 277 | 226 | 195 | 218 | 196 | 194 | 16   |
| 6    | 215  | 212 | 155 | 197 | 193 | 183 | 191 | 153 | 172 | 203 | 205 | 206 | 208 | 213 | 204 | 203 | 208 | 196 | 186 | 188 | 204 | 188 | 196 | 195 | 194  |
| 7    | 195  | 186 | 156 | 186 | 198 | 186 | 175 | 184 | 176 | 256 | 204 | 201 | 204 | 209 | 215 | 216 | 210 | 201 | 220 | 208 | 202 | 197 | 169 | 191 | 194  |
| 8    | 178  | 202 | 186 | 59  | 97  | 92  | 202 | 165 | 197 | 201 | 203 | 206 | 216 | 242 | 249 | 223 | 336 | 334 | 99  | 146 | 145 | 166 | 176 | 176 | 182  |
| 9    | 204  | 194 | 100 | 169 | 187 | 187 | 190 | 186 | 178 | 190 | 197 | 201 | 205 | 215 | 220 | 217 | 214 | 209 | 198 | 186 | 209 | 218 | 267 | 315 | 201  |
| 10   | 515  | 335 | 358 | 302 | 352 | 352 | 349 | 353 | 358 | 345 | 329 | 323 | 335 | 301 | 302 | 303 | 343 | 307 | 305 | 338 | 346 | 353 | 350 | 356 | 343  |
| 11   | 360  | 357 | 357 | 355 | 342 | 345 | 356 | 327 | 340 | 353 | 354 | 360 | 1   | 2   | 359 | 3   | 12  | 17  | 22  | 25  | 24  | 8   | 6   | 136 | 0    |
| 12   | 22   | 151 | 263 | 96  | 171 | 153 | 182 | 155 | 120 | 87  | 92  | 104 | 163 | 197 | 220 | 186 | 177 | 195 | 164 | 151 | 157 | 138 | 125 | 113 | 153  |
| 13   | 167  | 129 | 106 | 184 | 165 | 182 | 194 |     |     |     |     |     | 207 | 206 | 210 | 219 | 214 | 218 | 216 | 223 | 259 | 319 | 296 | 326 | 210  |
| 14   | 305  | 285 | 280 | 297 | 267 | 244 | 249 | 258 | 311 | 315 | 332 | 317 | 327 | 312 | 289 | 280 | 252 | 253 | 93  | 184 | 265 | 297 | 129 | 122 | 282  |
| 15   | 111  | 121 | 223 | 215 | 125 | 186 | 29  | 340 | 300 | 46  | 108 | 203 | 201 | 189 | 195 | 210 | 203 | 180 | 190 | 179 | 202 | 158 | 208 | 176 | 182  |
| 16   | 169  | 147 | 143 | 144 | 140 | 183 | 167 | 175 | 191 | 193 | 207 | 201 | 204 | 207 | 210 | 214 | 222 | 238 | 240 | 227 | 300 | 101 | 177 | 205 | 190  |
| 17   | 223  | 246 | 262 | 272 | 295 | 283 | 281 | 98  | 12  | 294 | 260 | 260 | 260 | 220 | 220 | 253 | 104 | 533 | 193 | 273 | 255 | 296 | 163 | 242 | 258  |
| 18   | 251  | 180 | 150 | 156 | 293 | 277 | 292 | 268 | 275 | 283 | 266 | 269 | 268 | 263 |     | 279 | 277 | 293 | 294 | 510 | 27  | 357 | 279 | 250 | 278  |
| 19   | 209  | 221 | 225 | 223 | 219 | 216 | 216 | 211 | 215 | 219 | 205 | 211 | 213 | 217 | 225 | 217 | 221 | 210 | 197 | 203 | 210 | 231 | 230 | 230 | 216  |
| 20   | 229  | 239 | 249 | 291 | 278 | 309 | 32  | 46  | 31  | 34  | 12  | 10  | 8   | 337 | 341 | 281 | 5   | 74  | 109 | 183 | 521 | 333 | 327 | 339 | 339  |
| 21   | 15   | 117 | 117 | 90  | 243 | 213 | 183 | 195 | 254 | 301 | 2   | 100 | 266 | 244 | 221 | 211 | 236 | 227 | 200 | 203 | 202 | 195 | 194 | 207 | 208  |
| 22   | 197  | 191 | 205 | 196 | 199 | 192 | 179 | 194 | 129 | 211 | 240 | 63  | 11  | 43  | 23  | 220 | 196 | 167 | 156 | 153 | 149 | 169 | 189 | 196 | 179  |
| 23   | 203  | 169 | 157 | 156 | 146 | 152 | 153 | 143 | 153 | 153 | 177 | 196 | 205 | 209 | 212 | 222 | 228 | 231 | 216 | 206 | 188 | 201 | 197 | 190 | 187  |
| 24   | 192  | 175 | 166 | 166 | 196 | 181 | 175 | 170 |     |     |     |     | 200 | 206 | 221 | 213 | 203 | 185 | 193 | 197 | 170 | 183 | 185 | 186 | 192  |
| 25   | 189  | 200 | 201 | 200 | 197 | 198 | 201 | 211 | 211 | 212 | 208 | 208 | 219 | 201 | 203 | 185 | 187 | 193 | 197 | 292 | 131 | 89  | 303 | 329 | 203  |
| 26   | 1    | 516 | 301 | 293 | 278 | 227 | 102 | 96  | 63  | 339 | 326 | 325 | 296 | 39  | 23  | 341 | 327 | 314 | 278 | 197 | 286 | 200 | 115 | 320 | 317  |
| 27   | 200  | 304 | 311 | 261 | 266 | 216 | 50  | 328 | 113 | 84  | 124 | 184 | 233 | 221 | 207 | 200 | 206 | 202 | 217 | 206 | 204 | 201 | 229 |     | 220  |
| 28   | 234  | 295 | 334 | 297 | 293 | 277 | 263 | 261 | 261 | 275 | 272 | 277 | 278 | 269 | 268 | 272 | 333 | 289 | 284 | 359 | 119 | 199 | 312 | 57  | 265  |
| 29   | 266  | 236 | 248 | 212 | 224 | 219 | 223 | 230 | 239 | 279 | 279 | 262 | 282 | 230 | 247 | 239 | 234 |     | 225 | 223 | 238 | 235 | 223 | 222 | 241  |
| 30   | 221  | 237 | 254 | 214 | 201 | 209 | 162 | 95  | 360 | 1   | 321 | 6   | 103 | 169 | 173 | 161 | 176 | 179 | 181 | 174 | 151 | 109 | 80  | 135 | 169  |
| 31   | 250  | 290 | 31  | 230 | 266 | 192 | 207 | 5   | 233 | 225 | 229 | 230 | 220 | 232 | 226 | 236 | 223 | 233 | 232 | 238 | 296 | 308 | 293 | 268 | 243  |
| MEAN | 228  | 216 | 220 | 215 | 223 | 214 | 203 | 193 | 236 | 219 | 262 | 247 | 231 | 243 | 244 | 245 | 245 | 242 | 216 | 218 | 226 | 229 | 232 | 221 |      |

TOTAL NUMBER OF OBSERVATIONS = 6752 MEAN = 232.

: LOCATES CALIBRATION DURING THE HOUR

# **IRADIAN** CORPORATION

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 8 FEET  
TRAILER NO. - 23 PERIOD 3/ 1/77 TO 3/31/77)

MOON

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 MEAN.

DAY

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

MEAN

# **TRADIAN** CORPORATION

DIERMAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 30 FEET  
TRAILER NO. - 25 PERIOD 5/ 1/77 TO 3/31/77)

DAY

|    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 2  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 3  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 4  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 5  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 6  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 7  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 8  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 9  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 10 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 11 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 12 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 13 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 14 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 15 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 16 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 17 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 18 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 19 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 20 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 21 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 22 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 23 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 24 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 25 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 26 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 27 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 28 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 29 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 30 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 31 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |



DAILY VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 200 FEET  
TRAILER NO. - 23 PERIOD( 3/ 1/77 TO 3/51/77)

HOUR

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 2   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 3   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 4   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 5   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 6   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 7   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 8   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 9   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 10  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 11  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 12  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 13  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 14  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 15  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 16  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 17  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 18  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 19  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 20  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 21  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 22  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 23  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 24  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 25  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 26  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 27  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 28  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 29  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 30  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 31  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |



WIND DIRECTION STANDARD DEVIATION AT 30 FEET  
TRAILER NO. = 23 PERIOD 5/ 1/77 TO 3/31/77)

[illegible]

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

REF A-13

II B-1217

# **IRADIAN** CORPORATION

MEASUREMENT OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 100 FEET  
INLET NO. - 25 PERIOD 5/ 177 TO 5/31/77

clock

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|-----|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 2   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 3   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 4   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 5   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 6   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 7   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 8   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 9   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 10  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 11  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 12  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 13  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 14  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 15  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 16  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 17  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 18  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 19  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 20  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 21  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 22  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 23  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 24  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 25  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 26  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 27  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 28  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 29  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 30  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 31  | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

# RADIAN CORPORATION

REPORT OF CALCULATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 200 FEET  
 TOWER NO. - 23 PERIOD 5/ 1/77 TO 5/31/77

| DAY | HOUR |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|     | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 2   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 6   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 7   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 8   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 9   |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 10  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 11  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 12  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 13  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 14  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 15  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 16  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 17  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 18  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 19  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 20  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 21  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 22  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 23  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 24  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 25  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 26  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 27  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 28  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 29  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 30  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 31  |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

DAILY VARIATION OF RELATIVE HUMIDITY AT 8 FEET  
TRAILER NO. - 23 PERIOD (3/1/77 TO 5/31/77)

RELATIVE HUMIDITY

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|------|
| 1    | 66  | 65  | 66  | 65  | 62  | 61  | 62  | 62  | 58  | 51 | 46 | 47 | 47 | 46 | 47 | 45 | 52 | 57 | 61 | 65  | 75  | 97  | 99  | 100 | 63   |
| 2    | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99 | 95 | 92 | 90 | 89 | 88 | 87 | 87 | 91 | 98 | 100 | 100 | 100 | 100 | 100 | 96   |
| 3    | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 98 | 95 | 92 | 90 | 89 | 88 | 87 | 87 | 79 | 82 | 89  | 93  | 95  | 96  | 96  | 92   |
| 4    | 95  | 98  | 98  | 99  | 99  | 99  | 99  | 99  | 99  | 97 | 94 | 93 | 90 | 89 | 88 | 87 | 79 | 81 | 81 | 85  | 90  | 94  | 96  | 96  | 92   |
| 5    | 96  | 97  | 96  | 96  | 95  | 97  | 96  | 94  | 94  | 89 | 83 | 81 | 78 | 74 | 70 | 66 | 65 | 67 | 71 | 83  | 84  | 84  | 82  | 81  | 84   |
| 6    | 83  | 82  | 83  | 83  | 84  | 83  | 83  | 81  | 76  | 68 | 63 | 61 | 60 | 60 | 60 | 59 | 59 | 62 | 65 | 68  | 70  | 67  | 65  | 64  | 70   |
| 7    | 63  | 66  | 66  | 65  | 66  | 66  | 65  | 65  | 57  | 50 | 48 | 49 | 43 | 47 | 46 | 45 | 49 | 46 | 49 | 52  | 53  | 53  | 55  | 54  | 55   |
| 8    | 51  | 49  | 49  | 49  | 49  | 49  | 48  | 46  | 45  | 42 | 42 | 42 | 41 | 39 | 40 | 41 | 43 | 44 | 44 | 49  | 52  | 53  | 54  | 51  | 46   |
| 9    | 50  | 49  | 46  | 48  | 46  | 45  | 44  | 44  | 44  | 43 | 41 | 41 | 41 | 40 | 40 | 40 | 41 | 42 | 45 | 47  | 47  | 48  | 48  | 56  | 45   |
| 10   | 67  | 74  | 91  | 96  | 91  | 89  | 94  | 97  | 97  | 96 | 96 | 98 | 97 | 96 | 96 | 97 | 98 | 93 | 98 | 99  | 99  | 98  | 96  | 95  | 94   |
| 11   | 97  | 98  | 98  | 99  | 99  | 95  | 97  | 95  | 90  | 87 | 83 | 78 | 72 | 70 | 68 | 66 | 66 | 67 | 70 | 73  | 73  | 76  | 81  | 84  | 83   |
| 12   | 88  | 87  | 89  | 89  | 90  | 90  | 89  | 86  | 73  | 68 | 61 | 56 | 54 | 54 | 52 | 52 | 51 | 51 | 54 | 55  | 57  | 58  | 58  | 59  | 68   |
| 13   | 56  | 52  | 51  | 51  | 51  | 52  | 50  | 50  | 61  | 66 | 74 | 71 | 74 | 76 | 72 | 70 | 70 | 75 | 78 | 83  | 89  | 93  | 95  | 97  | 82   |
| 14   | 68  | 75  | 77  | 80  | 81  | 86  | 87  | 86  | 61  | 76 | 66 | 62 | 55 | 53 | 51 | 47 | 45 | 46 | 48 | 53  | 54  | 56  | 59  | 56  | 66   |
| 15   | 58  | 57  | 66  | 67  | 66  | 83  | 82  | 82  | 76  | 66 | 62 | 55 | 55 | 53 | 51 | 47 | 45 | 46 | 48 | 53  | 54  | 56  | 59  | 56  | 46   |
| 16   | 55  | 55  | 54  | 53  | 52  | 51  | 50  | 50  | 45  | 42 | 41 | 41 | 41 | 39 | 39 | 38 | 37 | 39 | 42 | 46  | 51  | 52  | 49  | 49  | 46   |
| 17   | 46  | 46  | 47  | 50  | 62  | 73  | 65  | 65  | 98  | 96 | 93 | 95 | 94 | 89 | 94 | 90 | 98 | 99 | 98 | 93  | 96  | 99  | 100 | 96  | 85   |
| 18   | 97  | 99  | 99  | 98  | 99  | 98  | 99  | 99  | 95  | 79 | 71 | 70 | 70 | 60 | 66 | 66 | 69 | 54 | 55 | 60  | 82  | 89  | 89  | 82  | 82   |
| 19   | 81  | 81  | 81  | 80  | 83  | 83  | 81  | 74  | 67  | 65 | 64 | 62 | 59 | 56 | 55 | 52 | 49 | 49 | 51 | 54  | 53  | 51  | 51  | 52  | 64   |
| 20   | 52  | 55  | 56  | 58  | 75  | 73  | 66  | 66  | 68  | 66 | 60 | 75 | 70 | 68 | 65 | 65 | 67 | 69 | 73 | 76  | 76  | 72  | 71  | 70  | 71   |
| 21   | 78  | 81  | 81  | 83  | 83  | 83  | 84  | 79  | 72  | 63 | 59 | 58 | 55 | 50 | 55 | 54 | 54 | 54 | 58 | 62  | 63  | 64  | 67  | 67  | 67   |
| 22   | 68  | 67  | 69  | 69  | 69  | 68  | 68  | 66  | 59  | 53 | 51 | 50 | 48 | 47 | 46 | 43 | 43 | 44 | 47 | 51  | 50  | 51  | 52  | 50  | 55   |
| 23   | 51  | 55  | 55  | 50  | 54  | 53  | 52  | 51  | 47  | 43 | 42 | 41 | 42 | 42 | 40 | 40 | 40 | 40 | 41 | 46  | 49  | 50  | 47  | 48  | 47   |
| 24   | 48  | 47  | 48  | 46  | 51  | 51  | 52  | 51  | 47  | 43 | 42 | 41 | 40 | 40 | 40 | 40 | 40 | 40 | 41 | 46  | 49  | 50  | 47  | 48  | 48   |
| 25   | 46  | 47  | 48  | 50  | 51  | 64  | 52  | 46  | 99  | 94 | 89 | 80 | 82 | 87 | 74 | 76 | 75 | 77 | 79 | 85  | 98  | 100 | 100 | 100 | 78   |
| 26   | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 98 | 97 | 97 | 94 | 91 | 87 | 85 | 80 | 79 | 80 | 91  | 93  | 94  | 94  | 92  | 94   |
| 27   | 93  | 92  | 91  | 92  | 93  | 90  | 89  | 90  | 84  | 74 | 69 | 64 | 58 | 50 | 54 | 56 | 55 | 55 | 56 | 58  | 56  | 57  | 58  |     | 71   |
| 28   | 98  | 100 | 99  | 85  | 74  | 68  | 69  | 78  | 64  | 61 | 74 | 72 | 70 | 66 | 63 | 60 | 69 | 77 | 70 | 74  | 81  | 81  | 80  | 81  | 77   |
| 29   | 82  | 85  | 85  | 81  | 81  | 82  | 84  | 76  | 72  | 67 | 63 | 63 | 62 | 64 | 69 | 70 | 70 |    | 72 | 76  | 78  | 80  | 76  | 78  | 75   |
| 30   | 86  | 85  | 85  | 84  | 82  | 82  | 82  | 82  | 77  | 66 | 51 | 58 | 56 | 54 | 52 | 50 | 46 | 44 | 47 | 52  | 55  | 55  | 54  | 60  | 64   |
| 31   | 64  | 51  | 60  | 55  | 47  | 51  | 51  | 50  | 45  | 44 | 43 | 42 | 41 | 40 | 41 | 41 | 40 | 39 | 39 | 41  | 43  | 44  | 48  | 52  | 47   |
| MEAN | 75  | 75  | 76  | 76  | 76  | 76  | 76  | 79  | 77  | 72 | 66 | 66 | 64 | 63 | 61 | 60 | 60 | 60 | 60 | 63  | 69  | 72  | 72  | 72  | 73   |

TOTAL NUMBER OF OBSERVATIONS = 1743 MEAN = 70.

: 1.4 HOURS CALCULATION WORKING THE HOUR

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 50 FEET  
IRADIAN CO. - 25 PERIOD 3/ 1/77 TO 3/31/77)

DAY HOUR 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 MEAN

100%

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MEAN

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 12 | 75 | 71 | 70 | 70 | 70 | 70 | 70 | 71 | 67 | 64 | 51 | 53 | 54 | 51 | 50 | 43 | 42 | 41 | 43 | 40 | 71 | 73 | 74 | 72 | 71 | 69 |
| 59 | 60 | 60 | 58 | 48 | 49 | 50 | 50 | 51 | 50 | 46 | 45 | 44 | 43 | 43 | 44 | 44 | 43 | 41 | 42 | 43 | 50 | 50 | 53 | 54 | 57 | 58 |
| 66 | 66 | 65 | 61 | 59 | 60 | 60 | 61 | 59 | 55 | 48 | 50 | 48 | 49 | 46 | 52 | 52 | 48 | 41 | 50 | 53 | 56 | 57 | 58 | 58 | 60 | 48 |

TOTAL NUMBER OF OBSERVATIONS = 671 MEAN = 56.

INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF RELATIVE HUMIDITY AT 100 FEET  
JANUARY 30 - 23 PERIOD 3/1/77 TO 5/31/77

TABLE

|      | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 71  | 71  | 71  | 71  | 67  | 67  | 67  | 67  | 66  | 58  | 55  | 55  | 55  | 54  | 54  | 52  | 56  | 64  | 67  | 72  | 84  | 100 | 100 | 100 | 68   |
| 2    | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 99  | 99  | 97  | 97  | 99  | 100 | 100 | 100 | 100 | 100 | 100 | 99   |
| 3    | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 95  | 87  | 85  | 83  | 86  | 90  | 95  | 99  | 100 | 100 | 100 | 99   |
| 4    | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 93  | 86  | 87  | 88  | 88  | 91  | 96  | 99  | 100 | 100 | 97   |
| 5    | 100 | 100 | 100 | 100 | 99  | 100 | 100 | 100 | 100 | 99  | 95  | 92  | 88  | 85  | 80  | 76  | 73  | 74  | 77  | 81  | 80  | 85  | 85  | 84  | 90   |
| 6    | 85  | 87  | 87  | 84  | 83  | 84  | 83  | 83  | 81  | 76  | 71  | 69  | 66  | 68  | 68  | 67  | 66  | 67  | 68  | 72  | 72  | 71  | 70  | 69  | 75   |
| 7    | 67  | 67  | 69  | 66  | 65  | 66  | 66  | 64  | 61  | 57  | 55  | 54  | 53  | 52  | 50  | 49  | 48  | 50  | 54  | 56  | 57  | 57  | 57  | 57  | 58   |
| 8    | 55  | 55  | 55  | 52  | 52  | 53  | 52  | 53  | 49  | 47  | 45  | 46  | 45  | 43  | 43  | 44  | 45  | 45  | 46  | 46  | 48  | 50  | 51  | 50  | 48   |
| 9    | 49  | 49  | 49  | 50  | 46  | 47  | 47  | 47  | 48  | 47  | 46  | 45  | 45  | 44  | 44  | 45  | 45  | 46  | 48  | 48  | 49  | 50  | 51  | 50  | 48   |
| 10   | 75  | 81  | 98  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98   |
| 11   | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 95  | 89  | 81  | 77  | 75  | 73  | 72  | 73  | 75  | 79  | 79  | 81  | 84  | 85  | 88   |
| 12   | 88  | 86  | 91  | 93  | 92  | 92  | 91  | 88  | 87  | 78  | 71  | 65  | 62  | 61  | 58  | 58  | 57  | 55  | 58  | 60  | 62  | 61  | 62  | 62  | 73   |
| 13   | 58  | 57  | 55  | 55  | 55  | 55  | 54  |     |     |     |     |     | 45  | 45  | 45  | 46  | 45  | 45  | 46  | 46  | 46  | 59  | 67  | 69  | 52   |
| 14   | 71  | 75  | 79  | 82  | 85  | 88  | 91  | 93  | 92  | 89  | 84  | 80  | 84  | 87  | 99  | 100 | 98  | 87  | 87  | 87  | 98  | 100 | 100 | 100 | 89   |
| 15   | 100 | 99  | 91  | 86  | 85  | 82  | 83  | 82  | 81  | 77  | 70  | 61  | 60  | 58  | 56  | 52  | 51  | 50  | 50  | 55  | 54  | 55  | 58  | 54  | 69   |
| 16   | 84  | 55  | 54  | 53  | 54  | 52  | 50  | 51  | 49  | 46  | 45  | 45  | 45  | 44  | 42  | 42  | 41  | 43  | 45  | 46  | 48  | 50  | 48  | 48  | 89   |
| 17   | 47  | 47  | 51  | 54  | 67  | 61  | 94  | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 100 | 99  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 89   |
| 18   | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 89  | 78  | 77  | 82  | 76  |     | 75  | 66  | 59  | 60  | 65  | 89  | 97  | 94  | 86  | 86   |
| 19   | 83  | 82  | 81  | 82  | 83  | 86  | 85  | 80  | 75  | 73  | 71  | 70  | 66  | 62  | 59  | 57  | 54  | 53  | 54  | 56  | 57  | 56  | 56  | 57  | 68   |
| 20   | 57  | 58  | 59  | 63  | 61  | 61  | 66  | 67  | 69  | 98  | 92  | 86  | 80  | 77  | 73  | 73  | 74  | 77  | 80  | 81  | 81  | 77  | 75  | 74  | 79   |
| 21   | 80  | 80  | 85  | 86  | 86  | 84  | 85  | 84  | 80  | 71  | 67  | 65  | 62  | 62  | 62  | 61  | 60  | 60  | 62  | 64  | 67  | 68  | 69  | 68  | 72   |
| 22   | 68  | 69  | 70  | 69  | 68  | 68  | 68  | 68  | 64  | 60  | 57  | 55  | 53  | 52  | 51  | 46  | 47  | 48  | 48  | 47  | 47  | 50  | 52  | 53  | 57   |
| 23   | 55  | 55  | 54  | 51  | 52  | 53  | 52  | 52  | 52  | 47  | 45  | 45  | 45  | 45  | 44  | 44  | 44  | 44  | 44  | 44  | 45  | 46  | 46  | 47  | 48   |
| 24   | 45  | 46  | 51  | 50  | 51  | 53  | 54  | 54  |     |     |     | 54  | 52  | 51  | 51  | 50  | 50  | 50  | 51  | 52  | 54  | 54  | 53  | 52  | 52   |
| 25   | 51  | 51  | 53  | 56  | 57  | 70  | 99  | 100 | 100 | 99  | 97  | 86  | 87  | 94  | 80  | 83  | 83  | 84  | 85  | 92  | 100 | 100 | 100 | 100 | 83   |
| 26   | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97  | 95  | 89  | 87  | 87  | 86  | 89  | 92  | 91  | 90  | 96   |
| 27   | 92  | 92  | 90  | 91  | 90  | 90  | 90  | 93  | 91  | 81  | 76  | 71  | 65  | 62  | 60  | 61  | 59  | 59  | 60  | 62  | 62  | 60  | 61  |     | 75   |
| 28   | 100 | 100 | 100 | 94  | 82  | 75  | 75  | 74  | 93  | 90  | 85  | 80  | 76  | 72  | 68  | 66  | 74  | 65  | 76  | 81  | 89  | 85  | 82  | 84  | 83   |
| 29   | 85  | 81  | 81  | 82  | 81  | 82  | 84  | 82  | 80  | 76  | :   | :   | :   | :   | :   | 70  | 73  | 73  | 75  | 78  | 81  | 81  | 79  | 76  | 79   |
| 30   | 76  | 79  | 78  | 77  | 77  | 76  | 77  | 76  | 76  | 75  | 51  | 65  | 62  | 58  | 56  | 54  | 48  | 46  | 47  | 48  | 51  | 56  | 56  | 57  | 64   |
| 31   | 58  | 60  | 61  | 56  | 52  | 53  | 54  | 54  | 50  | 50  | 49  | 48  | 47  | 46  | 47  | 47  | 47  | 45  | 45  | 45  | 46  | 49  | 53  | 55  | 51   |
| MEAN | 78  | 77  | 78  | 77  | 78  | 79  | 80  | 82  | 82  | 78  | 75  | 72  | 70  | 69  | 67  | 66  | 66  | 66  | 67  | 69  | 72  | 74  | 74  | 74  | 74   |

TOTAL NUMBER OF OBSERVATIONS = 1710 MEAN = 74.

: JEFFERSONS CALCULATION DURING THE HOUR

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 200 FEET  
TABLE NO. - 25 PERIOD 3/ 1/77 TO 3/31/77

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 67  | 67  | 65  | 65  | 62  | 62  | 61  | 62  | 61  | 55  | 48  | 48  | 48  | 51  | 50  | 49  | 55  | 61  | 63  | 69  | 80  | 95  | 98  | 97  | 64   |
| 2    | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 91  | 89  | 90  | 90  | 88  | 87  | 93  | 94  | 97  | 98  | 98  | 98  | 98  | 96   |
| 3    | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 93  | 91  | 89  | 83  | 61  | 79  | 82  | 80  | 93  | 93  | 97  | 99  | 99  | 93   |
| 4    | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 89  | 88  | 85  | 82  | 83  | 82  | 86  | 90  | 95  | 96  | 98  | 91   |
| 5    | 92  | 95  | 96  | 97  | 93  | 93  | 93  | 95  | 99  | 97  | 91  | 87  | 84  | 80  | 75  | 70  | 68  | 69  | 72  | 75  | 73  | 78  | 78  | 77  | 84   |
| 6    | 77  | 79  | 79  | 76  | 75  | 76  | 75  | 75  | 73  | 68  | 65  | 62  | 62  | 63  | 63  | 62  | 62  | 63  | 62  | 65  | 65  | 65  | 63  | 62  | 68   |
| 7    | 60  | 60  | 62  | 59  | 58  | 59  | 58  | 56  | 54  | 52  | 50  | 49  | 48  | 48  | 46  | 44  | 45  | 47  | 50  | 52  | 52  | 52  | 53  | 53  | 53   |
| 8    | 51  | 60  | 60  | 60  | 61  | 61  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 61  | 62  | 62  | 63  | 63  | 64  | 64  | 64  | 66  | 66  | 65  | 45   |
| 9    | 65  | 65  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 66  | 45   |
| 10   | 67  | 75  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 80  | 91   |
| 11   | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 82   |
| 12   | 62  | 64  | 65  | 64  | 65  | 64  | 63  | 78  | 77  | 71  | 65  | 59  | 57  | 57  | 54  | 50  | 52  | 51  | 54  | 55  | 57  | 56  | 56  | 57  | 66   |
| 13   | 52  | 51  | 50  | 50  | 50  | 50  | 49  | 91  | 90  | 88  | 82  | 78  | 79  | 85  | 90  | 87  | 81  | 82  | 82  | 79  | 86  | 92  | 95  | 96  | 49   |
| 14   | 69  | 72  | 77  | 79  | 74  | 72  | 72  | 72  | 69  | 71  | 61  | 55  | 50  | 54  | 52  | 48  | 47  | 47  | 47  | 44  | 44  | 51  | 54  | 49  | 64   |
| 15   | 75  | 95  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 63   |
| 16   | 49  | 46  | 48  | 47  | 48  | 47  | 46  | 46  | 46  | 44  | 43  | 43  | 43  | 42  | 41  | 41  | 41  | 42  | 40  | 44  | 46  | 48  | 45  | 45  | 45   |
| 17   | 59  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 81   |
| 18   | 59  | 62  | 61  | 61  | 62  | 61  | 61  | 61  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 60  | 61  | 69  | 94  | 88  | 81  | 80   |
| 19   | 76  | 74  | 75  | 74  | 76  | 79  | 77  | 73  | 69  | 65  | 65  | 64  | 60  | 55  | 51  | 51  | 49  | 48  | 50  | 52  | 52  | 52  | 52  | 54  | 62   |
| 20   | 50  | 55  | 57  | 57  | 56  | 56  | 52  | 52  | 56  | 53  | 56  | 64  | 78  | 75  | 71  | 70  | 72  | 74  | 78  | 77  | 77  | 73  | 71  | 69  | 75   |
| 21   | 76  | 82  | 81  | 81  | 79  | 78  | 80  | 78  | 75  | 67  | 65  | 63  | 60  | 60  | 60  | 59  | 59  | 58  | 60  | 61  | 64  | 65  | 66  | 65  | 68   |
| 22   | 65  | 65  | 66  | 66  | 64  | 65  | 65  | 63  | 61  | 55  | 53  | 51  | 50  | 49  | 48  | 45  | 45  | 45  | 45  | 43  | 44  | 46  | 46  | 49  | 50   |
| 23   | 49  | 49  | 47  | 46  | 47  | 47  | 47  | 47  | 47  | 45  | 43  | 43  | 44  | 45  | 42  | 42  | 42  | 43  | 42  | 42  | 43  | 43  | 44  | 44  | 45   |
| 24   | 45  | 45  | 47  | 47  | 48  | 49  | 50  | 50  | 50  | 49  | 48  | 52  | 49  | 48  | 49  | 48  | 48  | 49  | 49  | 50  | 52  | 52  | 51  | 50  | 49   |
| 25   | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 79   |
| 26   | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 94   |
| 27   | 85  | 87  | 84  | 84  | 85  | 85  | 86  | 87  | 85  | 76  | 73  | 68  | 61  | 60  | 56  | 60  | 58  | 58  | 84  | 84  | 85  | 88  | 88  | 86  | 71   |
| 28   | 90  | 100 | 99  | 92  | 91  | 90  | 89  | 82  | 81  | 67  | 79  | 76  | 74  | 68  | 65  | 60  | 71  | 82  | 73  | 78  | 86  | 81  | 70  | 79  | 79   |
| 29   | 78  | 76  | 75  | 75  | 75  | 74  | 76  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 75  | 73   |
| 30   | 71  | 73  | 72  | 70  | 72  | 71  | 72  | 73  | 72  | 70  | 55  | 62  | 56  | 54  | 53  | 50  | 45  | 43  | 45  | 46  | 48  | 52  | 52  | 53  | 60   |
| 31   | 55  | 56  | 52  | 50  | 45  | 50  | 51  | 51  | 51  | 48  | 47  | 46  | 45  | 44  | 45  | 45  | 45  | 43  | 43  | 44  | 45  | 47  | 52  | 53  | 48   |
| MEAN | 71  | 72  | 75  | 72  | 72  | 74  | 75  | 77  | 77  | 70  | 70  | 68  | 66  | 64  | 63  | 62  | 61  | 62  | 63  | 65  | 68  | 70  | 70  | 70  | 70   |

TOTAL NUMBER OF OBSERVATIONS = 8694 MEAN = 70.

: INDICES CALIBRATION DURING THE HOUR

## DIURNAL VARIATION OF TEMPERATURE AT 6 FEET (DEG. F) WATER NO. - 25 PERIOD 3/ 1/77 TO 5/31/77

inches

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 23 | 24 | 24 | 26 | 27 | 26 | 25 | 26 | 52 | 57 | 59 | 40 | 40 | 39 | 41 | 39 | 35 | 52 | 51 | 30 | 28 | 24 | 24 | 25 | 31.9 |
| 2    | 23 | 22 | 20 | 19 | 20 | 19 | 18 | 18 | 19 | 20 | 22 | 23 | 24 | 24 | 25 | 25 | 25 | 23 | 21 | 20 | 20 | 19 | 19 | 19 | 21.3 |
| 3    | 19 | 19 | 19 | 18 | 18 | 18 | 18 | 18 | 19 | 20 | 22 | 24 | 24 | 25 | 26 | 26 | 25 | 23 | 22 | 18 | 16 | 15 | 16 | 16 | 20.9 |
| 4    | 16 | 16 | 14 | 15 | 15 | 15 | 15 | 15 | 17 | 19 | 21 | 22 | 22 | 23 | 24 | 24 | 23 | 22 | 18 | 16 | 12 | 9  | 8  | 10 | 17.5 |
| 5    | 9  | 8  | 8  | 8  | 8  | 6  | 8  | 12 | 15 | 16 | 21 | 22 | 24 | 24 | 26 | 26 | 26 | 24 | 20 | 15 | 15 | 14 | 16 | 16 | 16.7 |
| 6    | 14 | 15 | 15 | 12 | 12 | 13 | 14 | 15 | 21 | 28 | 30 | 33 | 33 | 34 | 36 | 37 | 36 | 35 | 31 | 28 | 27 | 28 | 28 | 28 | 25.5 |
| 7    | 29 | 27 | 25 | 25 | 24 | 25 | 25 | 26 | 34 | 39 | 40 | 42 | 42 | 43 | 45 | 44 | 42 | 42 | 38 | 36 | 36 | 35 | 34 | 34 | 35.5 |
| 8    | 35 | 37 | 34 | 34 | 32 | 32 | 34 | 35 | 40 | 44 | 46 | 47 | 48 | 49 | 48 | 45 | 43 | 42 | 39 | 34 | 32 | 31 | 30 | 32 | 38.0 |
| 9    | 32 | 32 | 30 | 31 | 35 | 36 | 37 | 38 | 39 | 42 | 44 | 44 | 45 | 46 | 46 | 45 | 44 | 44 | 41 | 39 | 36 | 39 | 38 | 37 | 40.0 |
| 10   | 33 | 32 | 27 | 26 | 25 | 25 | 21 | 20 | 20 | 20 | 20 | 21 | 23 | 22 | 22 | 22 | 22 | 22 | 22 | 21 | 22 | 21 | 22 | 21 | 23.0 |
| 11   | 21 | 20 | 20 | 19 | 19 | 19 | 16 | 17 | 20 | 22 | 23 | 25 | 27 | 27 | 28 | 26 | 26 | 26 | 23 | 21 | 19 | 17 | 13 | 13 | 21.9 |
| 12   | 11 | 12 | 11 | 11 | 10 | 9  | 10 | 12 | 18 | 25 | 25 | 31 | 32 | 34 | 36 | 36 | 35 | 34 | 31 | 29 | 28 | 26 | 28 | 28 | 24.4 |
| 13   | 31 | 31 | 33 | 33 | 33 | 31 | 34 |    | 21 | 24 | 27 | 27 | 27 | 27 | 24 | 25 | 26 | 27 | 23 | 19 | 18 | 18 | 16 | 17 | 22.0 |
| 14   | 23 | 21 | 20 | 19 | 17 | 16 | 16 | 16 | 20 | 24 | 30 | 33 | 34 | 35 | 36 | 38 | 37 | 37 | 33 | 29 | 28 | 26 | 25 | 28 | 25.5 |
| 15   | 15 | 13 | 12 | 13 | 11 | 12 | 12 | 12 | 20 | 24 | 34 | 45 | 46 | 47 | 48 | 49 | 47 | 44 | 39 | 34 | 33 | 33 | 34 | 34 | 37.7 |
| 16   | 27 | 26 | 26 | 26 | 26 | 26 | 29 | 25 | 25 | 27 | 28 | 28 | 29 | 30 | 29 | 30 | 28 | 27 | 27 | 27 | 26 | 25 | 24 | 24 | 29.7 |
| 17   | 35 | 37 | 36 | 34 | 31 | 28 | 26 | 25 | 25 | 27 | 28 | 30 | 32 | 33 | 34 | 34 | 33 | 34 | 30 | 29 | 31 | 32 | 33 | 34 | 37.7 |
| 18   | 22 | 22 | 20 | 20 | 20 | 21 | 20 | 20 | 22 | 24 | 27 | 26 | 26 | 28 |    | 27 | 26 | 28 | 25 | 23 | 21 | 18 | 15 | 15 | 23.0 |
| 19   | 13 | 13 | 14 | 14 | 13 | 14 | 14 | 14 | 25 | 27 | 28 | 30 | 32 | 33 | 34 | 34 | 35 | 34 | 30 | 29 | 31 | 32 | 33 | 34 | 26.5 |
| 20   | 33 | 33 | 33 | 31 | 28 | 28 | 23 | 22 | 22 | 23 | 25 | 26 | 27 | 29 | 30 | 30 | 30 | 28 | 26 | 24 | 24 | 25 | 23 | 22 | 27.5 |
| 21   | 20 | 17 | 15 | 15 | 14 | 15 | 15 | 19 | 24 | 28 | 29 | 32 | 33 | 36 | 36 | 38 | 39 | 38 | 33 | 30 | 30 | 28 | 27 | 27 | 27.6 |
| 22   | 25 | 26 | 25 | 24 | 24 | 25 | 24 | 29 | 35 | 39 | 40 | 43 | 44 | 45 | 47 | 47 | 47 | 46 | 41 | 36 | 36 | 34 | 33 | 34 | 35.6 |
| 23   | 30 | 32 | 32 | 34 | 32 | 32 | 33 | 37 | 43 | 48 | 51 | 52 | 53 | 54 | 54 | 54 | 55 | 51 | 46 | 39 | 37 | 36 | 39 | 40 | 42.4 |
| 24   | 36 | 39 | 39 | 38 | 35 | 36 | 35 | 34 |    |    |    | 47 | 49 | 49 | 49 | 50 | 48 | 46 | 44 | 44 | 43 | 44 | 45 | 45 | 43.3 |
| 25   | 45 | 45 | 42 | 40 | 39 | 36 | 32 | 32 | 30 | 32 | 34 | 36 | 35 | 36 | 39 | 38 | 36 | 35 | 33 | 32 | 29 | 28 | 28 | 28 | 35.3 |
| 26   | 29 | 26 | 25 | 25 | 24 | 23 | 23 | 24 | 25 | 29 | 31 | 32 | 34 | 34 | 37 | 37 | 40 | 39 | 37 | 31 | 31 | 29 | 28 | 28 | 30.0 |
| 27   | 27 | 25 | 25 | 24 | 23 | 24 | 24 | 27 | 32 | 35 | 37 | 40 | 44 | 46 | 47 | 46 | 47 | 46 | 42 | 40 | 38 | 38 | 37 |    | 35.5 |
| 28   | 29 | 23 | 22 | 21 | 19 | 18 | 14 | 16 | 18 | 19 | 21 | 21 | 22 | 23 | 23 |    | 23 | 21 | 21 | 19 | 17 | 14 | 15 | 13 | 20.7 |
| 29   | 11 | 10 | 9  | 10 | 8  | 8  | 7  | 15 | 19 | 22 | 22 |    | 22 | 22 | 21 | 22 | 23 |    | 19 | 17 | 17 | 15 | 14 | 13 | 16.4 |
| 30   | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 15 | 20 | 22 |    |    |    | 29 | 30 | 31 | 32 | 32 | 29 | 24 | 23 | 22 | 23 | 20 | 20.2 |
| 31   | 19 | 19 | 20 | 23 | 27 | 26 | 27 | 29 | 32 | 35 | 36 | 39 | 39 | 40 | 40 | 40 | 40 | 39 | 36 | 31 | 29 | 28 | 26 | 25 | 31.2 |
| MEAN | 24 | 24 | 23 | 23 | 22 | 22 | 21 | 21 | 26 | 29 | 31 | 33 | 33 | 34 | 35 | 36 | 35 | 34 | 31 | 28 | 27 | 26 | 26 | 25 | 25   |

TOTAL NUMBER OF OBSERVATIONS = 6699 MEAN = 28.

: INDICATES CALIBRATION DURING THE WORK



# **IRADIAN** CORPORATION

DIURNAL VARIATION OF TEMPERATURE AT 30 FEET (OEG F)  
PERIOD 5/ 1/77 TO 3/31/77)

| DAY | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1   | 23 | 24 | 25 | 26 | 26 | 26 | 25 | 24 | 29 | 35 | 57 | 56 | 37 | 57 | 58 | 58 | 34 | 51 | 50 | 29 | 26 | 22 | 22 | 21 | 29   |
| 2   | 21 | 19 | 18 | 18 | 18 | 17 | 16 | 16 | 17 | 18 | 19 | 21 | 21 | 22 | 22 | 22 | 23 | 21 | 18 | 18 | 18 | 17 | 17 | 17 | 19   |
| 3   | 17 | 17 | 17 | 17 | 17 | 17 | 16 | 16 | 17 | 18 | 20 | 21 | 21 | 23 | 24 | 24 | 24 | 23 | 21 | 19 | 17 | 17 | 16 | 15 | 19   |
| 4   | 14 | 14 | 15 | 14 | 14 | 13 | 13 | 13 | 15 | 17 | 18 | 20 | 19 | 20 | 21 | 21 | 21 | 20 | 18 | 16 | 13 | 11 | 10 | 11 | 16   |
| 5   | 9  | 9  | 7  | 10 | 10 | 5  | 7  | 10 | 13 | 16 | 19 | 19 | 21 | 22 | 23 | 25 | 24 | 23 | 21 | 17 | 17 | 15 | 15 | 15 | 15   |
| 6   | 15 | 15 | 15 | 12 | 12 | 12 | 13 | 13 | 15 | 19 | 28 | 30 | 32 | 33 | 34 | 35 | 36 | 34 | 39 | 37 | 37 | 36 | 35 | 35 | 39   |
| 7   | 20 | 27 | 25 | 27 | 26 | 25 | 25 | 26 | 35 | 40 | 40 | 41 | 42 | 43 | 44 | 44 | 44 | 42 | 41 | 39 | 36 | 34 | 32 | 34 | 40   |
| 8   | 56 | 57 | 55 | 55 | 53 | 52 | 54 | 55 | 59 | 42 | 43 | 46 | 47 | 48 | 48 | 45 | 45 | 43 | 42 | 40 | 39 | 40 | 40 | 36 | 40   |
| 9   | 54 | 55 | 55 | 52 | 50 | 51 | 57 | 58 | 17 | 17 | 18 | 18 | 20 | 19 | 19 | 19 | 20 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19   |
| 10  | 53 | 52 | 55 | 54 | 53 | 51 | 18 | 17 | 17 | 17 | 20 | 22 | 23 | 24 | 25 | 26 | 24 | 23 | 22 | 20 | 19 | 17 | 16 | 15 | 19   |
| 11  | 16 | 16 | 17 | 17 | 17 | 16 | 15 | 15 | 17 | 19 | 20 | 22 | 23 | 24 | 25 | 26 | 24 | 23 | 22 | 29 | 28 | 28 | 28 | 27 | 23   |
| 12  | 12 | 13 | 12 | 11 | 11 | 10 | 9  | 10 | 16 | 23 | 26 | 29 | 31 | 32 | 34 | 35 | 34 | 33 | 31 | 29 | 28 | 29 | 28 | 27 | 23   |
| 13  | 51 | 51 | 52 | 52 | 52 | 51 | 53 | 16 | 18 | 21 | 24 | 25 | 24 | 24 | 22 | 22 | 23 | 24 | 22 | 19 | 18 | 17 | 17 | 16 | 20   |
| 14  | 20 | 23 | 20 | 19 | 17 | 16 | 15 | 11 | 17 | 22 | 29 | 30 | 31 | 33 | 34 | 36 | 36 | 36 | 34 | 30 | 29 | 27 | 26 | 29 | 24   |
| 15  | 13 | 11 | 12 | 12 | 13 | 11 | 10 | 11 | 32 | 41 | 42 | 43 | 44 | 46 | 46 | 47 | 47 | 44 | 40 | 37 | 35 | 35 | 36 | 34 | 37   |
| 16  | 27 | 28 | 26 | 27 | 26 | 29 | 27 | 24 | 20 | 25 | 27 | 26 | 27 | 28 | 26 | 25 | 25 | 25 | 26 | 22 | 24 | 24 | 23 | 23 | 27   |
| 17  | 56 | 57 | 55 | 55 | 53 | 53 | 53 | 56 | 20 | 21 | 23 | 23 | 22 | 23 | 23 | 25 | 26 | 26 | 30 | 29 | 30 | 31 | 32 | 32 | 21   |
| 18  | 20 | 20 | 19 | 18 | 15 | 14 | 14 | 16 | 22 | 24 | 25 | 27 | 29 | 31 | 31 | 32 | 33 | 33 | 30 | 29 | 29 | 28 | 27 | 27 | 24   |
| 19  | 15 | 15 | 15 | 16 | 15 | 15 | 15 | 18 | 19 | 20 | 22 | 23 | 25 | 28 | 29 | 29 | 28 | 27 | 25 | 24 | 23 | 23 | 22 | 21 | 25   |
| 20  | 52 | 52 | 51 | 50 | 50 | 50 | 51 | 57 | 22 | 26 | 28 | 30 | 32 | 33 | 34 | 36 | 37 | 37 | 34 | 31 | 29 | 28 | 27 | 27 | 26   |
| 21  | 19 | 16 | 17 | 15 | 14 | 14 | 15 | 17 | 22 | 26 | 28 | 30 | 32 | 33 | 34 | 36 | 37 | 37 | 44 | 40 | 38 | 36 | 36 | 36 | 36   |
| 22  | 26 | 25 | 25 | 25 | 26 | 26 | 26 | 27 | 30 | 37 | 40 | 42 | 43 | 45 | 46 | 47 | 47 | 46 | 44 | 44 | 43 | 43 | 42 | 41 | 43   |
| 23  | 51 | 53 | 54 | 54 | 54 | 54 | 55 | 56 | 43 | 47 | 49 | 50 | 51 | 53 | 53 | 53 | 52 | 51 | 46 | 44 | 43 | 43 | 42 | 41 | 43   |
| 24  | 42 | 41 | 40 | 40 | 40 | 37 | 37 | 35 | 28 | 30 | 32 | 33 | 33 | 33 | 37 | 36 | 35 | 34 | 32 | 30 | 27 | 27 | 27 | 26 | 33   |
| 25  | 45 | 43 | 42 | 40 | 40 | 39 | 38 | 38 | 28 | 28 | 30 | 30 | 32 | 33 | 36 | 37 | 39 | 38 | 36 | 36 | 35 | 33 | 33 | 29 | 30   |
| 26  | 23 | 24 | 23 | 23 | 23 | 23 | 22 | 22 | 22 | 24 | 26 | 28 | 29 | 30 | 32 | 33 | 34 | 34 | 43 | 40 | 39 | 38 | 37 | 35 | 35   |
| 27  | 26 | 26 | 27 | 26 | 25 | 25 | 25 | 26 | 31 | 34 | 36 | 39 | 42 | 45 | 46 | 46 | 46 | 46 | 45 | 40 | 39 | 38 | 37 | 35 | 35   |
| 28  | 23 | 21 | 20 | 18 | 16 | 15 | 15 | 15 | 14 | 15 | 17 | 18 | 20 | 20 | 20 | 21 | 21 | 17 | 17 | 16 | 14 | 13 | 12 | 12 | 17   |
| 29  | 11 | 10 | 9  | 8  | 6  | 6  | 6  | 11 | 14 | 17 | 17 | 18 | 20 | 21 | 21 | 20 | 21 | 21 | 19 | 17 | 16 | 15 | 15 | 14 | 14   |
| 30  | 12 | 11 | 12 | 12 | 12 | 12 | 12 | 14 | 16 | 20 | 20 | 20 | 23 | 24 | 25 | 26 | 26 | 32 | 31 | 29 | 26 | 25 | 25 | 23 | 22   |
| 31  | 25 | 22 | 22 | 26 | 30 | 30 | 29 | 30 | 33 | 35 | 37 | 39 | 39 | 39 | 40 | 40 | 40 | 40 | 37 | 35 | 32 | 31 | 29 | 28 | 25   |
| SPR | 20 | 25 | 25 | 22 | 22 | 22 | 21 | 21 | 21 | 24 | 27 | 29 | 31 | 32 | 33 | 34 | 34 | 35 | 31 | 29 | 27 | 27 | 26 | 26 | 25   |

TOTAL NUMBER OF OBSERVATIONS = 6665

TO ADJ =

28.

IRADIAN CORPORATION - 300 Folsom Street, San Francisco, CA 94102

DIURNAL VARIATION OF TEMPERATURE AT 100 FEET (DEG F)  
TRAILER NO. - 23 PERIOD 3/ 1/77 TO 3/31/77

HOURLY

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 25 | 24 | 24 | 26 | 26 | 26 | 27 | 25 | 29 | 34 | 36 | 37 | 37 | 36 | 37 | 37 | 34 | 31 | 31 | 29 | 26 | 22 | 22 | 21 | 29   |
| 2    | 21 | 19 | 19 | 16 | 18 | 16 | 16 | 16 | 16 | 16 | 17 | 19 | 20 | 20 | 21 | 21 | 22 | 20 | 18 | 18 | 18 | 17 | 17 | 17 | 18   |
| 3    | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 18 | 20 | 21 | 22 | 23 | 24 | 24 | 23 | 22 | 20 | 18 | 18 | 17 | 16 | 19   |
| 4    | 16 | 14 | 13 | 14 | 14 | 14 | 14 | 13 | 14 | 15 | 18 | 19 | 19 | 19 | 20 | 20 | 20 | 19 | 18 | 16 | 14 | 13 | 13 | 13 | 16   |
| 5    | 12 | 10 | 9  | 11 | 13 | 10 | 10 | 12 | 13 | 16 | 18 | 19 | 20 | 21 | 23 | 24 | 24 | 23 | 22 | 21 | 21 | 17 | 17 | 18 | 17   |
| 6    | 17 | 17 | 16 | 17 | 16 | 16 | 17 | 16 | 20 | 25 | 28 | 30 | 31 | 31 | 32 | 34 | 34 | 34 | 32 | 29 | 29 | 29 | 29 | 29 | 25   |
| 7    | 50 | 28 | 28 | 29 | 29 | 28 | 28 | 29 | 34 | 37 | 39 | 39 | 40 | 41 | 42 | 42 | 42 | 42 | 39 | 37 | 37 | 37 | 36 | 36 | 35   |
| 8    | 57 | 54 | 56 | 56 | 55 | 53 | 54 | 55 | 40 | 43 | 44 | 45 | 46 | 47 | 47 | 45 | 45 | 45 | 42 | 41 | 39 | 37 | 35 | 36 | 40   |
| 9    | 50 | 56 | 56 | 53 | 57 | 58 | 58 | 58 | 39 | 41 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 44 | 42 | 42 | 40 | 41 | 41 | 56 | 40   |
| 10   | 52 | 51 | 52 | 53 | 53 | 52 | 54 | 16 | 17 | 17 | 17 | 17 | 19 | 19 | 18 | 20 | 20 | 20 | 20 | 19 | 16 | 18 | 19 | 18 | 20   |
| 11   | 19 | 16 | 16 | 17 | 17 | 16 | 15 | 15 | 16 | 18 | 19 | 22 | 23 | 24 | 24 | 25 | 24 | 24 | 23 | 21 | 20 | 18 | 17 | 17 | 19   |
| 12   | 14 | 14 | 15 | 15 | 13 | 13 | 12 | 13 | 16 | 22 | 25 | 28 | 29 | 31 | 33 | 33 | 34 | 33 | 32 | 29 | 29 | 30 | 29 | 28 | 24   |
| 13   | 51 | 51 | 52 | 53 | 53 | 52 | 54 | 16 | 17 | 20 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 27 | 27 | 25 | 24 | 24 | 24 | 24   |
| 14   | 25 | 25 | 21 | 20 | 16 | 18 | 16 | 12 | 17 | 22 | 28 | 30 | 30 | 31 | 32 | 34 | 36 | 36 | 35 | 31 | 32 | 30 | 28 | 32 | 25   |
| 15   | 11 | 15 | 16 | 15 | 14 | 13 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12   |
| 16   | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50   |
| 17   | 57 | 57 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55   |
| 18   | 21 | 20 | 19 | 20 | 18 | 18 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17   |
| 19   | 16 | 15 | 16 | 17 | 17 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16   |
| 20   | 52 | 52 | 51 | 50 | 27 | 26 | 21 | 19 | 16 | 19 | 20 | 22 | 23 | 26 | 27 | 27 | 26 | 26 | 25 | 24 | 23 | 23 | 22 | 21 | 25   |
| 21   | 19 | 17 | 17 | 16 | 15 | 15 | 16 | 17 | 21 | 24 | 26 | 28 | 30 | 32 | 34 | 35 | 37 | 37 | 34 | 31 | 29 | 29 | 29 | 29 | 26   |
| 22   | 27 | 26 | 26 | 26 | 27 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26   |
| 23   | 57 | 54 | 57 | 56 | 57 | 56 | 57 | 57 | 42 | 46 | 46 | 49 | 50 | 51 | 52 | 51 | 51 | 45 | 44 | 43 | 42 | 38 | 36 | 37 | 56   |
| 24   | 45 | 42 | 40 | 41 | 39 | 38 | 37 | 38 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28   |
| 25   | 65 | 62 | 61 | 59 | 59 | 55 | 51 | 29 | 28 | 28 | 31 | 34 | 32 | 32 | 35 | 34 | 33 | 33 | 32 | 30 | 27 | 27 | 27 | 26 | 33   |
| 26   | 25 | 24 | 25 | 25 | 23 | 23 | 23 | 21 | 25 | 26 | 29 | 30 | 31 | 33 | 35 | 35 | 37 | 37 | 38 | 37 | 35 | 34 | 34 | 31 | 30   |
| 27   | 29 | 28 | 29 | 27 | 26 | 25 | 25 | 26 | 29 | 32 | 36 | 39 | 41 | 44 | 45 | 45 | 45 | 45 | 45 | 40 | 39 | 39 | 38 | 35 | 35   |
| 28   | 20 | 21 | 21 | 19 | 17 | 16 | 15 | 12 | 14 | 15 | 17 | 16 | 18 | 19 | 19 | 19 | 17 | 16 | 17 | 15 | 14 | 14 | 12 | 12 | 17   |
| 29   | 15 | 15 | 11 | 10 | 10 | 9  | 8  | 11 | 14 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 17 | 16 | 16 | 15 | 15 | 14   |
| 30   | 14 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 17 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 22   |
| 31   | 24 | 22 | 22 | 27 | 26 | 26 | 24 | 24 | 22 | 25 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26   |
| MEAN | 25 | 24 | 24 | 26 | 26 | 26 | 27 | 25 | 29 | 34 | 36 | 37 | 37 | 36 | 37 | 37 | 34 | 31 | 31 | 29 | 26 | 22 | 22 | 21 | 26   |

TOTAL NUMBER OF OBSERVATIONS = 6700 MEAN = 28.

2 INDICATES CALCULATION DURING THE HOUR



DIURNAL VARIATION OF TEMPERATURE AT 200 FEET (DEG F)  
TRAILER NO. - 25 PERIOD 5/ 1/77 TO 5/31/77

hour

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 23 | 22 | 20 | 25 | 25 | 24 | 24 | 23 | 26 | 32 | 35 | 36 | 35 | 34 | 35 | 35 | 32 | 29 | 29 | 27 | 25 | 19 | 19 | 18 | 27   |
| 2    | 18 | 16 | 16 | 15 | 15 | 14 | 14 | 14 | 14 | 14 | 16 | 18 | 19 | 20 | 20 | 20 | 21 | 18 | 16 | 15 | 15 | 15 | 14 | 14 | 16   |
| 3    | 14 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 15 | 14 | 15 | 16 | 16 | 19 | 20 | 21 | 21 | 20 | 19 | 17 | 16 | 15 | 14 | 14 | 16   |
| 4    | 15 | 12 | 12 | 11 | 12 | 11 | 11 | 12 | 15 | 14 | 16 | 17 | 17 | 18 | 18 | 18 | 16 | 17 | 16 | 15 | 15 | 11 | 10 | 10 | 14   |
| 5    | 10 | 6  | 7  | 9  | 10 | 9  | 9  | 10 | 10 | 15 | 16 | 17 | 18 | 19 | 21 | 21 | 21 | 20 | 19 | 20 | 20 | 16 | 16 | 17 | 15   |
| 6    | 16 | 15 | 16 | 15 | 15 | 15 | 15 | 15 | 16 | 23 | 25 | 27 | 29 | 30 | 31 | 32 | 33 | 32 | 30 | 26 | 26 | 27 | 27 | 27 | 24   |
| 7    | 26 | 27 | 26 | 29 | 29 | 28 | 28 | 20 | 55 | 50 | 57 | 59 | 40 | 41 | 45 | 45 | 41 | 40 | 57 | 56 | 56 | 56 | 55 | 54 | 35   |
| 8    | 55 | 56 | 55 | 56 | 53 | 52 | 55 | 54 | 40 | 42 | 44 | 45 | 45 | 46 | 45 | 45 | 41 | 41 | 40 | 40 | 58 | 57 | 56 | 55 | 39   |
| 9    | 55 | 55 | 55 | 52 | 56 | 56 | 56 | 37 | 37 | 39 | 41 | 43 | 43 | 44 | 44 | 44 | 44 | 42 | 41 | 41 | 59 | 40 | 59 | 54 | 59   |
| 10   | 51 | 29 | 22 | 21 | 20 | 18 | 16 | 14 | 14 | 15 | 15 | 17 | 16 | 16 | 17 | 17 | 16 | 18 | 18 | 17 | 17 | 17 | 17 | 16 | 18   |
| 11   | 16 | 15 | 16 | 15 | 15 | 15 | 14 | 15 | 14 | 16 | 17 | 20 | 21 | 22 | 22 | 22 | 21 | 21 | 20 | 18 | 16 | 16 | 14 | 14 | 17   |
| 12   | 15 | 12 | 12 | 15 | 12 | 15 | 11 | 13 | 14 | 16 | 17 | 20 | 21 | 22 | 22 | 22 | 22 | 31 | 29 | 26 | 28 | 28 | 27 | 27 | 22   |
| 13   | 50 | 50 | 50 | 51 | 51 | 51 | 32 | 14 | 15 | 19 | 25 | 26 | 43 | 44 | 45 | 44 | 45 | 41 | 59 | 58 | 56 | 26 | 26 | 25 | 55   |
| 14   | 25 | 22 | 20 | 16 | 16 | 16 | 15 | 14 | 15 | 17 | 21 | 21 | 21 | 21 | 19 | 19 | 20 | 22 | 20 | 20 | 16 | 15 | 15 | 14 | 18   |
| 15   | 12 | 12 | 15 | 15 | 14 | 14 | 13 | 13 | 15 | 19 | 25 | 28 | 28 | 29 | 31 | 32 | 35 | 34 | 32 | 30 | 30 | 28 | 26 | 30 | 23   |
| 16   | 20 | 29 | 29 | 30 | 30 | 31 | 31 | 31 | 50 | 38 | 40 | 40 | 42 | 45 | 44 | 44 | 42 | 42 | 40 | 39 | 56 | 35 | 56 | 36 | 55   |
| 17   | 52 | 55 | 55 | 51 | 27 | 25 | 25 | 22 | 22 | 25 | 25 | 24 | 24 | 26 | 25 | 27 | 25 | 24 | 26 | 25 | 24 | 22 | 21 | 21 | 25   |
| 18   | 12 | 13 | 12 | 15 | 16 | 16 | 15 | 16 | 18 | 21 | 23 | 22 | 21 | 23 | 25 | 25 | 25 | 25 | 22 | 19 | 16 | 17 | 15 | 14 | 19   |
| 19   | 11 | 15 | 16 | 17 | 17 | 14 | 14 | 16 | 19 | 25 | 25 | 24 | 27 | 30 | 32 | 31 | 32 | 31 | 29 | 26 | 28 | 29 | 30 | 30 | 24   |
| 20   | 30 | 29 | 29 | 26 | 24 | 24 | 18 | 17 | 16 | 17 | 19 | 20 | 22 | 25 | 26 | 25 | 24 | 24 | 25 | 23 | 21 | 21 | 20 | 19 | 25   |
| 21   | 17 | 16 | 16 | 16 | 15 | 16 | 16 | 17 | 20 | 25 | 24 | 26 | 26 | 30 | 31 | 33 | 34 | 35 | 44 | 45 | 42 | 28 | 28 | 28 | 25   |
| 22   | 27 | 27 | 25 | 25 | 27 | 26 | 25 | 26 | 51 | 54 | 57 | 59 | 40 | 41 | 42 | 43 | 45 | 44 | 44 | 45 | 40 | 40 | 37 | 36 | 35   |
| 23   | 35 | 35 | 32 | 30 | 36 | 37 | 38 | 37 | 40 | 44 | 46 | 47 | 48 | 49 | 51 | 51 | 50 | 49 | 47 | 46 | 46 | 45 | 43 | 43 | 45   |
| 24   | 42 | 41 | 39 | 39 | 36 | 37 | 36 | 36 | 56 | 56 | 42 | 42 | 46 | 46 | 46 | 47 | 46 | 45 | 44 | 44 | 45 | 45 | 43 | 42 | 43   |
| 25   | 41 | 40 | 35 | 37 | 37 | 35 | 28 | 28 | 26 | 29 | 35 | 35 | 35 | 31 | 30 | 35 | 32 | 31 | 30 | 27 | 24 | 24 | 24 | 25 | 42   |
| 26   | 22 | 21 | 21 | 21 | 21 | 20 | 20 | 20 | 21 | 26 | 28 | 28 | 30 | 31 | 35 | 34 | 35 | 36 | 36 | 35 | 34 | 32 | 32 | 31 | 31   |
| 27   | 20 | 20 | 20 | 26 | 26 | 25 | 25 | 24 | 29 | 32 | 34 | 36 | 39 | 42 | 43 | 45 | 43 | 43 | 41 | 39 | 37 | 37 | 36 | 34 | 28   |
| 28   | 20 | 19 | 19 | 17 | 15 | 13 | 11 | 11 | 12 | 15 | 17 | 16 | 18 | 19 | 19 | 17 | 16 | 14 | 15 | 14 | 15 | 13 | 12 | 11 | 15   |
| 29   | 11 | 11 | 9  | 8  | 8  | 8  | 7  | 9  | 12 | 14 | 16 | 16 | 18 | 19 | 17 | 18 | 19 | 17 | 17 | 15 | 15 | 14 | 12 | 11 | 12   |
| 30   | 15 | 12 | 12 | 12 | 11 | 12 | 11 | 12 | 15 | 16 | 16 | 16 | 16 | 16 | 17 | 18 | 19 | 30 | 30 | 29 | 27 | 25 | 25 | 24 | 21   |
| 31   | 25 | 22 | 25 | 27 | 29 | 29 | 29 | 29 | 51 | 55 | 56 | 56 | 57 | 58 | 59 | 59 | 59 | 59 | 56 | 35 | 32 | 30 | 28 | 28 | 32   |
| MEAN | 24 | 25 | 22 | 22 | 22 | 21 | 20 | 20 | 22 | 24 | 27 | 29 | 30 | 31 | 32 | 32 | 32 | 32 | 31 | 30 | 28 | 27 | 26 | 25 | 24   |

TOTAL NUMBER OF OBSERVATIONS = 8691 MEAN = 26.

: TEMPERATURE CALCULATION USING THE BOOK

HOURLY TOTAL SOLAR RADIATION (LANGLEY)  
TABLE NO. - 25 PERIOD 3/ 17/ 10 5/31/77)

| DAY      | Hour |   |   |   |   |   |   |    |    |     |     |     |     |     |     |    |    |    |    |    |    |    |    |    |
|----------|------|---|---|---|---|---|---|----|----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|
|          | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8  | 9  | 10  | 11  | 12  | 13  | 14  | 15  | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1        | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 29 | 40  | 52  | 60  | 61  | 56  | 49  | 23 | 7  | 1  | 0  | 0  | 0  | 0  | 0  | 0  |
| 2        | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 0  | 16  | 21  | 19  | 18  | 19  | 19  | 14 | 10 | 3  | 0  | 0  | 0  | 0  | 0  | 0  |
| 3        | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 11 | 16  | 18  | 21  | 26  | 33  | 34  | 25 | 15 | 5  | 0  | 0  | 0  | 0  | 0  | 0  |
| 4        | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 5  | 14  | 20  | 23  | 25  | 30  | 30  | 21 | 12 | 5  | 0  | 0  | 0  | 0  | 0  | 0  |
| 5        | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 4  | 22 | 36  | 44  | 40  | 48  | 45  | 47  | 45 | 24 | 5  | 0  | 0  | 0  | 0  | 0  | 0  |
| 6        | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 27 | 42  | 54  | 62  | 64  | 60  | 51  | 59 | 23 | 6  | 0  | 0  | 0  | 0  | 0  | 0  |
| 7        | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 26 | 43  | 54  | 62  | 64  | 61  | 52  | 59 | 23 | 6  | 0  | 0  | 0  | 0  | 0  | 0  |
| 8        | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 26 | 43  | 56  | 63  | 65  | 61  | 39  | 17 | 10 | 5  | 0  | 0  | 0  | 0  | 0  | 0  |
| 9        | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 8  | 14 | 24  | 28  | 32  | 26  | 33  | 21  | 13 | 17 | 4  | 0  | 0  | 0  | 0  | 0  | 0  |
| 10       | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 10 | 11  | 13  | 18  | 18  | 20  | 15  | 11 | 7  | 2  | 0  | 0  | 0  | 0  | 0  | 0  |
| 11       | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 30 | 38  | 51  | 62  | 58  | 47  | 50  | 45 | 17 | 8  | 0  | 0  | 0  | 0  | 0  | 0  |
| 12       | 0    | 0 | 0 | 0 | 0 | 0 | 2 | 19 | 39 | 49  | 58  | 64  | 67  | 58  | 54  | 36 | 23 | 6  | 0  | 0  | 0  | 0  | 0  | 0  |
| 13       | 0    | 0 | 0 | 0 | 0 | 0 | 1 |    |    |     |     |     | 70  | 66  | 55  | 43 | 25 | 9  | 0  | 0  | 0  | 0  | 0  | 0  |
| 14       | 0    | 0 | 0 | 0 | 0 | 0 | 2 | 17 | 35 | 47  | 56  | 19  | 21  | 11  | 9   | 11 | 14 | 9  | 0  | 0  | 0  | 0  | 0  | 0  |
| 15       | 0    | 0 | 0 | 0 | 0 | 0 | 2 | 23 | 37 | 55  | 63  | 66  | 65  | 66  | 55  | 42 | 26 | 9  | 0  | 0  | 0  | 0  | 0  | 0  |
| 16       | 0    | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 32 | 49  | 60  | 67  | 66  | 53  | 56  | 45 | 26 | 6  | 0  | 0  | 0  | 0  | 0  | 0  |
| 17       | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 3  | 7   | 10  | 10  | 23  | 21  | 14  | 12 | 5  | 3  | 0  | 0  | 0  | 0  | 0  | 0  |
| 18       | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 5  | 11  | 24  | 27  | 37  | 62  |     | 25 | 18 | 8  | 0  | 0  | 0  | 0  | 0  | 0  |
| 19       | 0    | 0 | 0 | 0 | 0 | 0 | 3 | 17 | 34 | 49  | 61  | 52  | 58  | 60  | 51  | 40 | 25 | 11 | 0  | 0  | 0  | 0  | 0  | 0  |
| 20       | 0    | 0 | 0 | 0 | 0 | 0 | 1 | 6  | 12 | 25  | 31  | 45  | 50  | 64  | 44  | 22 | 13 | 4  | 0  | 0  | 0  | 0  | 0  | 0  |
| 21       | 0    | 0 | 0 | 0 | 0 | 0 | 3 | 19 | 35 | 50  | 61  | 65  | 64  | 66  | 57  | 43 | 26 | 9  | 0  | 0  | 0  | 0  | 0  | 0  |
| 22       | 0    | 0 | 0 | 0 | 0 | 0 | 3 | 15 | 35 | 50  | 61  | 66  | 70  | 60  | 57  | 44 | 20 | 11 | 0  | 0  | 0  | 0  | 0  | 0  |
| 23       | 0    | 0 | 0 | 0 | 0 | 0 | 3 | 17 | 34 | 50  | 61  | 69  | 70  | 67  | 59  | 45 | 29 | 12 | 1  | 0  | 0  | 0  | 0  | 0  |
| 24       | 0    | 0 | 0 | 0 | 0 | 0 | 2 | 14 |    |     |     |     | 57  | 53  | 41  | 20 | 13 | 8  | 0  | 0  | 0  | 0  | 0  | 0  |
| 25       | 0    | 0 | 0 | 0 | 0 | 0 | 1 | 4  | 12 | 22  | 41  | 63  | 50  | 54  | 46  | 38 | 17 | 5  | 0  | 0  | 0  | 0  | 0  | 0  |
| 26       | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 7  | 14  | 26  | 31  | 42  | 37  | 63  | 27 | 27 | 7  | 1  | 0  | 0  | 0  | 0  | 0  |
| 27       | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 32 | 49  | 53  | 62  | 70  | 63  | 57  | 26 | 15 | 11 | 1  | 0  | 0  | 0  | 0  | 0  |
| 28       | 0    | 0 | 0 | 0 | 0 | 0 | 2 | 11 | 19 | 34  | 48  | 30  | 49  | 41  | 37  | 40 | 13 | 6  | 0  | 0  | 0  | 0  | 0  | 0  |
| 29       | 0    | 0 | 0 | 0 | 0 | 0 | 5 | 23 | 31 | 52  | :   | :   | :   | :   | 33  | 15 | 14 | 2  | 1  | 0  | 0  | 0  | 0  | 0  |
| 30       | 0    | 0 | 0 | 0 | 0 | 0 | 3 | 20 | 36 | 54  | 35  | 55  | 60  | 39  | 56  | 46 | 32 | 14 | 1  | 0  | 0  | 0  | 0  | 0  |
| 31       | 0    | 0 | 0 | 0 | 0 | 0 | 2 | 13 | 23 | 36  | 51  | 55  | 49  | 49  | 40  | 42 | 32 | 14 | 3  | 0  | 0  | 0  | 0  | 0  |
| TOTAL/10 | 0    | 0 | 0 | 0 | 0 | 0 | 4 | 34 | 66 | 103 | 124 | 137 | 151 | 144 | 129 | 95 | 59 | 21 | 0  | 0  | 0  | 0  | 0  | 0  |

TOTAL NUMBER OF OBSERVATIONS = 3716 TOTAL = 10737.

: DELETES CALCULATION DURING THE MONTH

TEMPERATURE COVERAGE FROM 30° TO 100° (DEG F\*10)  
WALLER NO. - 25 PERIOD 5/ 1/77 TO 5/31/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 12 | 0  | 12 | 0  | 5  | 2  | 12 | 5  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 2    | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 3    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 4    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 5    | 20 | 10 | 12 | 19 | 20 | 38 | 22 | 12 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 6    | 21 | 15 | 20 | 41 | 37 | 35 | 29 | 24 | 5 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 7    | 5  | 9  | 10 | 24 | 30 | 27 | 30 | 32 | 3 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 8    | 0  | 2  | 10 | 9  | 15 | 9  | 4  | 1  | 1 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 9    | 23 | 25 | 11 | 10 | 9  | 6  | 5  | 1  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 10   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 11   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 12   | 22 | 10 | 15 | 21 | 28 | 36 | 34 | 15 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 13   | 7  | 4  | 2  | 2  | 3  | 7  | 2  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 14   | 5  | 10 | 11 | 10 | 7  | 17 | 11 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 15   | 0  | 10 | 10 | 16 | 17 | 17 | 12 | 9  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 16   | 20 | 19 | 10 | 14 | 15 | 21 | 23 | 8  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 17   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 18   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 19   | 5  | 10 | 25 | 19 | 30 | 10 | 15 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 20   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 21   | 5  | 14 | 12 | 15 | 19 | 25 | 19 | 4  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 22   | 20 | 19 | 18 | 22 | 16 | 12 | 24 | 12 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 23   | 11 | 6  | 33 | 20 | 27 | 15 | 21 | 4  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 24   | 10 | 10 | 6  | 5  | 10 | 10 | 11 | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 25   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 26   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 27   | 0  | 13 | 11 | 11 | 10 | 0  | 11 | 5  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 28   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 29   | 10 | 10 | 13 | 14 | 28 | 20 | 28 | 1  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 30   | 9  | 7  | 5  | 5  | 1  | 9  | 2  | 1  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 31   | 10 | 8  | 2  | 16 | 2  | 4  | 3  | 1  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| MEAN | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 600 MEAN = 2.

INDICATES CALCULATION DURING THE HOUR

TEMPERATURE CHANGE FROM 50° TO 200° (DEG F\*10)  
TRAILER NO. - 23 PERIOD 5/ 1/77 TO 3/31/77)

MOON

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 2   | -6  | 5   | -6  | -6  | -7  | 1   | -4  | -25 | -24 | -17 | -17 | -16 | -25 | -23 | -18 | -15 | -16 | -9  | -13 | -21 | -21 | -19 | -19 | -14  |
| 2    | -19 | -19 | -17 | -16 | -18 | -18 | -18 | -19 | -22 | -23 | -34 | -25 | -21 | -18 | -20 | -21 | -20 | -19 | -20 | -18 | -19 | -18 | -18 | -17 | -21  |
| 3    | -17 | -18 | -18 | -16 | -19 | -19 | -20 | -21 | -22 | -24 | -32 | -36 | -23 | -25 | -23 | -25 | -22 | -20 | -14 | -6  | -6  | -13 | -9  | -6  | -20  |
| 4    | 0   | -9  | -5  | -12 | -13 | -12 | -8  | -11 | -19 | -21 | -26 | -26 | -26 | -26 | -24 | -23 | -21 | -16 | -7  | -4  | 3   | 2   | 3   | 3   | -13  |
| 5    | 16  | 0   | 5   | 13  | 11  | 44  | 24  | 0   | -18 | -24 | -26 | -25 | -25 | -25 | -23 | -24 | -24 | -20 | -9  | 19  | 24  | 19  | 4   | 11  | -2   |
| 6    | 23  | 12  | 11  | 31  | 31  | 32  | 17  | 21  | -2  | -22 | -25 | -24 | -25 | -24 | -24 | -23 | -23 | -17 | 0   | 0   | 11  | -1  | -1  | 0   | -1   |
| 7    | -2  | 2   | 12  | 16  | 26  | 21  | 27  | 29  | -8  | -22 | -17 | -10 | -8  | -13 | -3  | -3  | -19 | -15 | -8  | -4  | -3  | 2   | 4   | -2  | -0   |
| 8    | -1  | -6  | 5   | 0   | 2   | 0   | -2  | -2  | 0   | -4  | -1  | -7  | -7  | -12 | -21 | -14 | -13 | -12 | -3  | 16  | 25  | 34  | 45  | 15  | 0    |
| 9    | 15  | 26  | 3   | 14  | 2   | -2  | -1  | 0   | -13 | -19 | -15 | -9  | -14 | -11 | -9  | -11 | -10 | -14 | -3  | 6   | 11  | 4   | 0   | -13 | -3   |
| 10   | -13 | -10 | -22 | -21 | -21 | -22 | -22 | -22 | -22 | -22 | -21 | -6  | -7  | -8  | -10 | -14 | -16 | -21 | -20 | -20 | -20 | -20 | -20 | -20 | -19  |
| 11   | -19 | -17 | -17 | -19 | -19 | -16 | -9  | -16 | -23 | -23 | -21 | -25 | -24 | -23 | -25 | -26 | -22 | -20 | -13 | -12 | -2  | -1  | -8  | 0   | -18  |
| 12   | 16  | 2   | 5   | 25  | 20  | 34  | 26  | 28  | -13 | -23 | -24 | -24 | -26 | -24 | -23 | -23 | -22 | -18 | -7  | -2  | 6   | 9   | 5   | 5   | -2   |
| 13   | 0   | -2  | -7  | -10 | -7  | 2   | -10 |     |     |     |     |     | -5  | -6  | -5  | -6  | -6  | -10 | -8  | 0   | 2   | -3  | -9  | -11 | -6   |
| 14   | -4  | 0   | 0   | 0   | -3  | 3   | 1   | -16 | -24 | -25 | -26 | -25 | -26 | -25 | -19 | -21 | -23 | -21 | -8  | 13  | -9  | -11 | -11 | -10 | -13  |
| 15   | -11 | 7   | 21  | 9   | 11  | 23  | 15  | 9   | -13 | -25 | -24 | -23 | -24 | -25 | -26 | -24 | -22 | -18 | -11 | 6   | 18  | 13  | 6   | 17  | -4   |
| 16   | 23  | 14  | 21  | 27  | 29  | 18  | 13  | 0   | -19 | -20 | -15 | -18 | -22 | -20 | -18 | -19 | -10 | -13 | 0   | 19  | 12  | 4   | 9   | 13  | 0    |
| 17   | 0   | -12 | -16 | -15 | -17 | -20 | -21 | -21 | -21 | -22 | -23 | -13 | -22 | -15 | -18 | -17 | -22 | -15 | -8  | -15 | -10 | -18 | -12 | -13 | -17  |
| 18   | -13 | -14 | -7  | 0   | -11 | -19 | -21 | -20 | -21 | -4  | 0   | -6  | -18 | -20 |     | -22 | -17 | -16 | -15 | -17 | -20 | -9  | -1  | -7  | -14  |
| 19   | -10 | 16  | 26  | 21  | 25  | 11  | 13  | -13 | -23 | -7  | -20 | -20 | -16 | -8  | 0   | -12 | -9  | -10 | -7  | -3  | -9  | -14 | -12 | -15 | -4   |
| 20   | -14 | -15 | -12 | -12 | -15 | -17 | -21 | -24 | -24 | -25 | -27 | -26 | -25 | -26 | -27 | -24 | -23 | -22 | -13 | 0   | -11 | -16 | -14 | -10 | -19  |
| 21   | -8  | 3   | 0   | 8   | 13  | 19  | 7   | -0  | -16 | -27 | -26 | -28 | -26 | -26 | -25 | -25 | -23 | -20 | -5  | 0   | -3  | -1  | 6   | 5   | -9   |
| 22   | 11  | 16  | 9   | 16  | 14  | 5   | 20  | 9   | -19 | -23 | -25 | -24 | -23 | -24 | -23 | -25 | -24 | -18 | -1  | 26  | 35  | 30  | 5   | 0   | -2   |
| 23   | 0   | 16  | 47  | 33  | 39  | 21  | 25  | 2   | -20 | -24 | -24 | -25 | -25 | -26 | -15 | -15 | -16 | -16 | 0   | 26  | 32  | 28  | 15  | 16  | 3    |
| 24   | 12  | 11  | 3   | 0   | 10  | 8   | 10  | -10 |     |     |     |     | -26 | -21 | -16 | -19 | -20 | -17 | -11 | -9  | -8  | -13 | -14 | -15 | -8   |
| 25   | -15 | -16 | -14 | -15 | -16 | -15 | -16 | -12 | -10 | -6  | -1  | 3   | -1  | -17 | -21 | -23 | -24 | -21 | -17 | -15 | -19 | -19 | -19 | -17 | -16  |
| 26   | -21 | -18 | -16 | -19 | -18 | -17 | -15 | -12 | -15 | -18 | -20 | -22 | -22 | -21 | -23 | -22 | -23 | -19 | -14 | 0   | 7   | 0   | 1   | 16  | -15  |
| 27   | 1   | 6   | 0   | 1   | 6   | 5   | 0   | 0   | -20 | -23 | -23 | -25 | -26 | -27 | -25 | -23 | -20 | -20 | -12 | -6  | -8  | -4  | -5  | -3  | -12  |
| 28   | -14 | -16 | -15 | -15 | -15 | -19 | -9  | -16 | -6  | -12 | 3   | -15 | -15 | -11 | -10 | -24 | -24 | -23 | -22 | -20 | -10 | -2  | 0   | -3  | -14  |
| 29   | 0   | 5   | 1   | 4   | 18  | 17  | 21  | -19 | -22 | -23 |     |     |     |     | -16 | -22 | -20 | -23 | -20 | -16 | -18 | -15 | -4  | 8   | -6   |
| 30   | 6   | 0   | -3  | -2  | -10 | -1  | -8  | -19 | -26 | -26 | -34 | -28 | -29 | -32 | -30 | -29 | -27 | -22 | -15 | 2   | 10  | 2   | 4   | 11  | -15  |
| 31   | -4  | 3   | 17  | 16  | -5  | -3  | -5  | -13 | -21 | -19 | -15 | -11 | -19 | -14 | -15 | -11 | -11 | -8  | -10 | -1  | -1  | -9  | -6  | -3  | -7   |
| MEAN | -2  | -1  | 0   | 0   | 0   | 0   | -9  | -7  | -19 | -21 | -21 | -20 | -21 | -20 | -20 | -21 | -20 | -18 | -11 | -2  | -0  | -2  | -3  | -2  |      |

TOTAL NUMBER OF OBSERVATIONS = 6085 MEAN = -10.

3 INDICATES CALCULATED DURING THE MOON



PLUMED VARIATION OF BAROMETRIC PRESSURE  
PERIOD - 23 PERIOD 5/ 177 TO 5/31/77

HOUR

|      | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 164 | 165 | 162 | 162 | 161 | 161 | 160 | 160 | 159 | 158 | 157 | 156 | 155 | 154 | 153 | 152 | 151 | 150 | 149 | 148 | 147 | 146 | 145 | 144 | 143  |
| 2    | 155 | 155 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152 | 152  |
| 3    | 179 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 180  |
| 4    | 185 | 185 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184 | 184  |
| 5    | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190 | 190  |
| 6    | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195  |
| 7    | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195 | 195  |
| 8    | 192 | 192 | 191 | 191 | 191 | 191 | 190 | 190 | 190 | 190 | 189 | 189 | 189 | 189 | 189 | 189 | 189 | 189 | 189 | 189 | 189 | 189 | 189 | 189 | 189  |
| 9    | 188 | 188 | 187 | 187 | 187 | 186 | 185 | 185 | 184 | 184 | 183 | 182 | 181 | 180 | 179 | 178 | 177 | 176 | 175 | 174 | 173 | 172 | 171 | 170 | 169  |
| 10   | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175  |
| 11   | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161  |
| 12   | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161  |
| 13   | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161  |
| 14   | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160  |
| 15   | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160  |
| 16   | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160  |
| 17   | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165  |
| 18   | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165  |
| 19   | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160  |
| 20   | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160  |
| 21   | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160  |
| 22   | 192 | 192 | 192 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191 | 191  |
| 23   | 160 | 160 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161  |
| 24   | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160  |
| 25   | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176 | 176  |
| 26   | 182 | 182 | 185 | 182 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185 | 185  |
| 27   | 184 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186 | 186  |
| 28   | 171 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175  |
| 29   | 176 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177 | 177  |
| 30   | 165 | 165 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166 | 166  |
| 31   | 160 | 160 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165  |
| MEAN | 164 | 164 | 165 | 165 | 165 | 165 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 164 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 164  |

TOTAL NUMBER OF OBSERVATIONS = 2750 MEAN = 164.

: CALCULATED CALIBRATION DURING LOG BOOK



GLOBAL VARIATION OF BL-VALE WIND SPEED AT 50 FEET  
TABLE NO. - 25 PERIOD 5/ 1/77 TO 5/31/77

| DAY | HOUR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|     | 1    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1   | 6    | 5  | 4  | 5  | 7  | 6  | 6  | 6  | 6  | 15 | 27 | 27 | 20 | 18 | 17 | 15 | 15 | 14 | 6  | 8  | 7  | 4  | 5  | 9  |
| 2   | 5    | 7  | 3  | 2  | 3  | 2  | 5  | 2  | 1  | 5  | 7  | 7  | 7  | 10 | 9  | 6  | 9  | 8  | 8  | 7  | 5  | 5  | 4  | 3  |
| 3   | 4    | 4  | 4  | 5  | 0  | 0  | 2  | 0  | 1  | 3  | 4  | 7  | 6  | 6  | 5  | 3  | 2  | 3  | 2  | 3  | 3  | 3  | 2  | 2  |
| 4   | 1    | 0  | 2  | 1  | 0  | 0  | 0  | 0  | 0  | 1  | 7  | 8  | 10 | 10 | 10 | 10 | 9  | 8  | 5  | 3  | 4  | 5  | 4  | 3  |
| 5   | 2    | 0  | 0  | 2  | 0  | 3  | 0  | 2  | 3  | 1  | 5  | 5  | 5  | 4  | 2  | 3  | 5  | 2  | 3  | 6  | 3  | 2  | 1  | 1  |
| 6   | 4    | 0  | 1  | 5  | 5  | 5  | 4  | 4  | 2  | 5  | 7  | 6  | 6  | 7  | 7  | 6  | 7  | 8  | 9  | 5  | 2  | 4  | 5  | 5  |
| 7   | 0    | 7  | 5  | 5  | 3  | 4  | 5  | 4  | 2  | 3  | 11 | 16 | 16 | 13 | 16 | 10 | 10 | 10 | 3  | 9  | 10 | 6  | 5  | 6  |
| 8   | 5    | 6  | 5  | 6  | 6  | 5  | 6  | 10 | 18 | 19 | 21 | 17 | 16 | 13 | 9  | 11 | 8  | 5  | 3  | 5  | 4  | 3  | 2  | 4  |
| 9   | 1    | 2  | 5  | 4  | 15 | 18 | 20 | 20 | 19 | 13 | 19 | 22 | 17 | 16 | 20 | 19 | 13 | 11 | 11 | 9  | 4  | 6  | 7  | 12 |
| 10  | 6    | 10 | 12 | 6  | 10 | 14 | 17 | 15 | 16 | 16 | 14 | 18 | 20 | 23 | 25 | 22 | 17 | 17 | 14 | 15 | 15 | 17 | 15 | 16 |
| 11  | 13   | 12 | 14 | 14 | 14 | 12 | 11 | 8  | 12 | 14 | 15 | 17 | 17 | 16 | 14 | 15 | 15 | 13 | 11 | 7  | 4  | 1  | 3  | 2  |
| 12  | 3    | 0  | 1  | 0  | 3  | 4  | 1  | 2  | 0  | 3  | 3  | 4  | 9  | 8  | 6  | 9  | 11 | 8  | 6  | 2  | 4  | 9  | 7  | 8  |
| 13  | 10   | 9  | 13 | 22 | 21 | 15 | 18 | 18 | 0  | 3  | 4  | 9  | 23 | 24 | 23 | 20 | 19 | 14 | 9  | 5  | 3  | 9  | 2  | 4  |
| 14  | 3    | 5  | 4  | 5  | 2  | 5  | 2  | 0  | 3  | 4  | 0  | 9  | 7  | 5  | 9  | 7  | 6  | 5  | 4  | 5  | 6  | 1  | 2  | 2  |
| 15  | 3    | 4  | 5  | 2  | 0  | 2  | 0  | 2  | 1  | 2  | 8  | 14 | 9  | 10 | 11 | 12 | 13 | 8  | 5  | 3  | 4  | 3  | 1  | 8  |
| 16  | 0    | 0  | 3  | 5  | 4  | 6  | 8  | 7  | 13 | 17 | 16 | 18 | 16 | 16 | 16 | 15 | 16 | 10 | 5  | 5  | 5  | 5  | 5  | 4  |
| 17  | 10   | 11 | 12 | 10 | 10 | 4  | 2  | 0  | 0  | 0  | 1  | 10 | 9  | 13 | 12 | 10 | 5  | 4  | 2  | 3  | 7  | 1  | 3  | 7  |
| 18  | 6    | 1  | 3  | 5  | 2  | 6  | 3  | 2  | 5  | 10 | 11 | 11 | 8  | 6  | 6  | 6  | 9  | 10 | 10 | 10 | 6  | 2  | 3  | 4  |
| 19  | 2    | 0  | 5  | 6  | 6  | 5  | 3  | 6  | 9  | 15 | 14 | 13 | 14 | 16 | 17 | 15 | 16 | 16 | 12 | 9  | 10 | 9  | 15 | 12 |
| 20  | 15   | 18 | 9  | 10 | 15 | 11 | 9  | 8  | 6  | 5  | 6  | 4  | 3  | 3  | 6  | 5  | 4  | 6  | 4  | 4  | 7  | 6  | 4  | 7  |
| 21  | 9    | 0  | 6  | 1  | 7  | 3  | 2  | 2  | 2  | 4  | 3  | 4  | 5  | 7  | 8  | 9  | 6  | 7  | 7  | 7  | 5  | 2  | 3  | 3  |
| 22  | 5    | 4  | 3  | 1  | 0  | 2  | 4  | 3  | 0  | 2  | 1  | 3  | 4  | 3  | 3  | 4  | 5  | 5  | 7  | 7  | 7  | 3  | 1  | 2  |
| 23  | 9    | 1  | 5  | 6  | 6  | 5  | 7  | 5  | 7  | 10 | 15 | 14 | 12 | 12 | 16 | 13 | 13 | 10 | 7  | 7  | 8  | 6  | 7  | 10 |
| 24  | 10   | 13 | 7  | 6  | 9  | 11 | 9  | 6  | 15 | 17 | 17 | 19 | 16 | 14 | 18 | 19 | 15 | 12 | 10 | 10 | 10 | 13 | 14 | 18 |
| 25  | 22   | 22 | 22 | 16 | 20 | 20 | 16 | 15 | 17 | 20 | 17 | 19 | 16 | 15 | 16 | 15 | 11 | 7  | 10 | 5  | 3  | 2  | 1  | 3  |
| 26  | 5    | 4  | 6  | 2  | 2  | 1  | 1  | 2  | 0  | 2  | 5  | 7  | 3  | 1  | 2  | 5  | 4  | 4  | 0  | 4  | 3  | 1  | 0  | 2  |
| 27  | 2    | 0  | 1  | 2  | 3  | 0  | 0  | 0  | 2  | 4  | 3  | 3  | 5  | 6  | 6  | 10 | 9  | 10 | 10 | 11 | 13 | 11 | 10 | 2  |
| 28  | 12   | 15 | 4  | 15 | 9  | 7  | 0  | 12 | 14 | 12 | 14 | 10 | 10 | 12 | 15 | 11 | 12 | 4  | 11 | 6  | 3  | 4  | 3  | 2  |
| 29  | 3    | 4  | 3  | 2  | 4  | 4  | 3  | 4  | 7  | 10 | 10 | 13 | 12 | 17 | 14 | 12 | 13 | 14 | 14 | 10 | 4  | 2  | 3  | 6  |
| 30  | 4    | 2  | 2  | 0  | 0  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
| 31  | 0    | 6  | 0  | 0  | 6  | 6  | 6  | 5  | 6  | 6  | 8  | 10 | 12 | 11 | 12 | 11 | 10 | 9  | 7  | 6  | 6  | 5  | 5  | 6  |

TOTAL NUMBER OF OBSERVATIONS = 8299 MEAN = 8.

: INDICES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF BL-VANE WIND SPEED AT 100 FEET  
TRAILER NO. - 25 PERIOD 5/1/77 TO 5/31/77

HOUR

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 2    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 3    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 4    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 5    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 6    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 7    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 8    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 9    | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 10   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 11   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 12   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 13   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 14   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 15   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 16   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 17   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 18   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 19   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 20   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 21   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 22   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 23   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 24   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 25   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 26   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 27   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 28   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 29   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 30   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| 31   | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |
| MEAN | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1    |

TOTAL NUMBER OF OBSERVATIONS = 6759 MEAN = 10.

STATISTICS CALCULATED FOR THIS

DIURNAL VARIATION OF BI-VALE WIND SPEED AT 200 FEET  
TRAILER NO. - 23 PERIOD 3/1/77 TO 3/31/77

HOUR

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 0  | 0  | 0  | 9  | 10 | 9  | 10 | 10 | 11 | 21 | 55 | 32 | 24 | 19 | 20 | 18 | 18 | 19 | 13 | 10 | 8  | 5  | 6  | 12 | 14   |
| 2    | 7  | 11 | 5  | 5  | 4  | 5  | 7  | 5  | 4  | 7  | 8  | 9  | 9  | 13 | 11 | 9  | 10 | 10 | 11 | 9  | 6  | 4  | 4  | 4  | 7    |
| 3    | 3  | 4  | 4  | 4  | 2  | 1  | 4  | 1  | 2  | 4  | 5  | 8  | 7  | 7  | 6  | 4  | 2  | 3  | 3  | 2  | 2  | 1  | 1  | 1  | 3    |
| 4    | 1  | 1  | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 8  | 10 | 12 | 10 | 13 | 12 | 11 | 11 | 9  | 6  | 7  | 2  | 2  | 2  | 5    |
| 5    | 3  | 1  | 1  | 3  | 2  | 1  | 1  | 5  | 4  | 1  | 6  | 6  | 5  | 4  | 2  | 3  | 6  | 2  | 3  | 4  | 4  | 3  | 3  | 4  | 3    |
| 6    | 3  | 1  | 1  | 1  | 1  | 2  | 2  | 1  | 2  | 7  | 8  | 7  | 8  | 8  | 8  | 7  | 8  | 10 | 17 | 9  | 7  | 6  | 11 | 11 | 6    |
| 7    | 10 | 12 | 6  | 9  | 6  | 3  | 5  | 4  | 5  | 4  | 16 | 21 | 21 | 18 | 21 | 20 | 11 | 15 | 8  | 18 | 17 | 12 | 5  | 4  | 12   |
| 8    | 9  | 18 | 9  | 4  | 6  | 6  | 14 | 16 | 27 | 25 | 29 | 22 | 21 | 17 | 11 | 14 | 11 | 7  | 2  | 4  | 4  | 4  | 4  | 5  | 12   |
| 9    | 7  | 10 | 4  | 4  | 26 | 26 | 32 | 31 | 26 | 17 | 25 | 28 | 22 | 23 | 27 | 25 | 24 | 16 | 18 | 13 | 5  | 11 | 10 | 16 | 19   |
| 10   | 8  | 12 | 15 | 9  | 12 | 16 | 21 | 17 | 22 | 21 | 17 | 22 | 26 | 31 | 34 | 30 | 24 | 23 | 19 | 18 | 21 | 23 | 20 | 21 | 20   |
| 11   | 17 | 16 | 20 | 19 | 18 | 15 | 15 | 11 | 15 | 17 | 19 | 21 | 21 | 19 | 17 | 17 | 17 | 15 | 12 | 10 | 9  | 4  | 1  | 1  | 14   |
| 12   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2  | 1  | 3  | 4  | 5  | 11 | 9  | 7  | 12 | 14 | 10 | 8  | 6  | 11 | 13 | 11 | 12 | 6    |
| 13   | 16 | 13 | 20 | 35 | 32 | 23 | 26 | 1  | 4  | 4  | 6  | 9  | 32 | 35 | 31 | 26 | 27 | 20 | 10 | 12 | 9  | 14 | 5  | 7  | 21   |
| 14   | 7  | 5  | 5  | 5  | 2  | 3  | 4  | 1  | 4  | 4  | 6  | 9  | 8  | 5  | 11 | 10 | 8  | 7  | 6  | 6  | 9  | 3  | 1  | 1  | 5    |
| 15   | 2  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 11 | 16 | 11 | 11 | 12 | 13 | 15 | 10 | 7  | 2  | 4  | 2  | 4  | 12 | 6    |
| 16   | 15 | 11 | 7  | 10 | 5  | 9  | 11 | 12 | 17 | 23 | 24 | 24 | 22 | 21 | 21 | 20 | 22 | 15 | 10 | 9  | 7  | 4  | 8  | 11 | 14   |
| 17   | 18 | 16 | 19 | 17 | 17 | 7  | 4  | 1  | 1  | 1  | 2  | 14 | 9  | 14 | 13 | 11 | 6  | 5  | 2  | 3  | 9  | 2  | 2  | 8  | 9    |
| 18   | 6  | 1  | 2  | 3  | 3  | 7  | 3  | 3  | 7  | 14 | 13 | 12 | 9  | 9  | 7  | 10 | 11 | 11 | 11 | 13 | 6  | 1  | 3  | 1  | 7    |
| 19   | 1  | 6  | 6  | 9  | 11 | 11 | 10 | 10 | 11 | 17 | 14 | 14 | 16 | 18 | 21 | 19 | 19 | 20 | 15 | 12 | 16 | 14 | 19 | 16 | 14   |
| 20   | 17 | 15 | 11 | 12 | 18 | 14 | 10 | 8  | 6  | 6  | 7  | 4  | 2  | 3  | 7  | 6  | 5  | 6  | 5  | 2  | 10 | 8  | 7  | 10 | 8    |
| 21   | 4  | 3  | 3  | 1  | 5  | 3  | 1  | 1  | 1  | 4  | 3  | 4  | 6  | 4  | 9  | 9  | 7  | 8  | 11 | 14 | 7  | 5  | 4  | 4  | 5    |
| 22   | 2  | 5  | 2  | 3  | 8  | 3  | 3  | 2  | 2  | 1  | 1  | 2  | 2  | 4  | 4  | 4  | 5  | 5  | 7  | 7  | 9  | 9  | 4  | 4  | 4    |
| 23   | 2  | 4  | 10 | 9  | 10 | 9  | 7  | 5  | 9  | 12 | 19 | 17 | 14 | 15 | 21 | 19 | 16 | 15 | 12 | 12 | 13 | 12 | 13 | 16 | 12   |
| 24   | 13 | 17 | 13 | 14 | 16 | 19 | 17 | 13 | 23 | 28 | 24 | 27 | 25 | 26 | 24 | 25 | 19 | 16 | 15 | 14 | 15 | 18 | 20 | 25 | 18   |
| 25   | 26 | 24 | 21 | 24 | 25 | 26 | 22 | 10 | 23 | 28 | 24 | 27 | 24 | 18 | 19 | 18 | 13 | 10 | 14 | 5  | 3  | 4  | 2  | 4  | 18   |
| 26   | 6  | 5  | 6  | 3  | 4  | 2  | 1  | 5  | 1  | 3  | 7  | 9  | 4  | 1  | 2  | 6  | 4  | 4  | 1  | 1  | 1  | 1  | 1  | 1  | 3    |
| 27   | 2  | 3  | 4  | 1  | 1  | 1  | 1  | 1  | 2  | 3  | 3  | 5  | 5  | 6  | 10 | 13 | 12 | 14 | 18 | 21 | 22 | 20 | 15 | 1  | 8    |
| 28   | 17 | 21 | 6  | 19 | 12 | 11 | 6  | 15 | 17 | 14 | 17 | 14 | 14 | 16 | 16 | 14 | 16 | 5  | 13 | 7  | 4  | 5  | 4  | 1  | 12   |
| 29   | 2  | 5  | 4  | 3  | 6  | 4  | 3  | 5  | 8  | 12 | 12 | 15 | 14 | 19 | 16 | 15 | 17 | 18 | 14 | 14 | 6  | 5  | 8  | 11 | 9    |
| 30   | 10 | 6  | 5  | 6  | 2  | 2  | 0  | 1  | 4  | 5  | 4  | 6  | 6  | 9  | 11 | 10 | 11 | 10 | 7  | 6  | 6  | 3  | 2  | 2  | 5    |
| 31   | 5  | 2  | 1  | 2  | 3  | 9  | 5  | 0  | 7  | 17 | 19 | 22 | 19 | 16 | 20 | 22 | 21 | 20 | 14 | 13 | 11 | 7  | 7  | 5  | 11   |
| MEAN | 6  | 4  | 7  | 4  | 9  | 8  | 8  | 7  | 8  | 10 | 12 | 14 | 14 | 14 | 15 | 14 | 13 | 11 | 10 | 9  | 9  | 9  | 7  | 7  | 8    |

TOTAL NUMBER OF OBSERVATIONS = 6758 MEAN = 10.

0 INDICATES CALIBRATION DURING THE HOUR

HOURLY VARIATION OF HORIZONTAL OF-VALE FIND DIRECTION AT 30 FEET  
TRAILER NO. - 23 PERIOD 3/ 1/77 TO 5/31/77

QUOT

| DAY | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1   | 117 | 67  | 69  | 104 | 103 | 152 | 154 | 157 | 109 | 156 | 191 | 188 | 199 | 185 | 191 | 201 | 243 | 216 | 201 | 208 | 235 | 304 | 293 | 303 | 176  |
| 2   | 243 | 508 | 237 | 527 | 264 | 294 | 502 | 298 | 529 | 294 | 294 | 292 | 303 | 297 | 299 | 288 | 292 | 283 | 304 | 501 | 505 | 284 | 280 | 274 | 295  |
| 3   | 231 | 269 | 282 | 271 | 268 | 278 | 296 | 279 | 312 | 308 | 313 | 315 | 318 | 336 | 356 | 316 | 305 | 354 | 346 | 271 | 264 | 244 | 234 | 265 | 295  |
| 4   | 297 | 140 | 282 | 230 | 159 | 248 | 245 | 218 | 249 | 341 | 336 | 333 | 346 | 348 | 359 | 344 | 352 | 342 | 317 | 290 | 271 | 241 | 217 | 171 | 281  |
| 5   | 237 | 217 | 341 | 186 | 224 | 183 | 151 | 166 | 148 | 53  | 527 | 317 | 326 | 341 | 343 | 315 | 310 | 332 | 259 | 205 | 186 | 299 | 121 | 104 | 258  |
| 6   | 227 | 43  | 127 | 113 | 99  | 115 | 106 | 65  | 43  | 221 | 201 | 195 | 202 | 208 | 195 | 192 | 202 | 193 | 183 | 137 | 104 | 87  | 169 | 157 | 154  |
| 7   | 125 | 155 | 116 | 145 | 103 | 96  | 104 | 76  | 122 | 268 | 197 | 193 | 196 | 203 | 210 | 213 | 203 | 185 | 181 | 194 | 184 | 172 | 114 | 59  | 163  |
| 8   | 132 | 105 | 80  | 79  | 66  | 78  | 175 | 146 | 189 | 191 | 194 | 196 | 208 | 235 | 240 | 317 | 335 | 328 | 159 | 191 | 235 | 174 | 19  | 138 | 174  |
| 9   | 164 | 247 | 133 | 86  | 101 | 181 | 185 | 178 | 170 | 184 | 191 | 195 | 197 | 210 | 217 | 214 | 210 | 202 | 187 | 181 | 145 | 186 | 268 | 311 | 190  |
| 10  | 311 | 525 | 550 | 539 | 343 | 345 | 502 | 347 | 350 | 337 | 321 | 315 | 328 | 335 | 336 | 336 | 336 | 338 | 339 | 330 | 338 | 346 | 343 | 349 | 336  |
| 11  | 550 | 542 | 543 | 525 | 352 | 352 | 317 | 313 | 333 | 345 | 336 | 352 | 356 | 358 | 353 | 359 | 7   | 12  | 18  | 36  | 55  | 136 | 206 | 182 | 349  |
| 12  | 211 | 169 | 263 | 193 | 216 | 253 | 113 | 106 | 76  | 65  | 74  | 171 | 155 | 180 | 216 | 179 | 170 | 186 | 150 | 97  | 122 | 124 | 110 | 93  | 152  |
| 13  | 147 | 111 | 125 | 176 | 173 | 170 | 184 |     |     |     |     |     | 196 | 194 | 208 | 211 | 203 | 207 | 202 | 207 | 231 | 315 | 274 | 308 | 197  |
| 14  | 257 | 229 | 235 | 239 | 219 | 211 | 187 | 13  | 306 | 307 | 320 | 309 | 320 | 305 | 282 | 274 | 244 | 240 | 89  | 191 | 247 | 297 | 197 | 181 | 256  |
| 15  | 135 | 157 | 235 | 53  | 251 | 224 | 335 | 202 | 36  | 38  | 218 | 198 | 194 | 185 | 192 | 212 | 201 | 182 | 185 | 159 | 209 | 220 | 81  | 170 | 189  |
| 16  | 131 | 130 | 122 | 101 | 110 | 135 | 150 | 155 | 187 | 187 | 202 | 196 | 199 | 202 | 205 | 210 | 219 | 236 | 239 | 207 | 235 | 159 | 178 | 224 | 183  |
| 17  | 212 | 236 | 253 | 265 | 266 | 273 | 282 | 10  | 37  | 313 | 246 | 247 | 249 | 211 | 215 | 245 | 86  | 82  | 111 | 276 | 265 | 301 | 166 | 253 | 259  |
| 18  | 224 | 152 | 165 | 173 | 294 | 270 | 287 | 286 | 288 | 276 | 279 | 282 | 262 | 279 |     | 278 | 275 | 290 | 290 | 306 | 29  | 198 | 246 | 230 | 263  |
| 19  | 175 | 196 | 199 | 195 | 199 | 197 | 189 | 190 | 201 | 206 | 193 | 199 | 201 | 205 | 216 | 208 | 213 | 202 | 182 | 187 | 204 | 231 | 220 | 228 | 201  |
| 20  | 221 | 251 | 241 | 262 | 271 | 302 | 29  | 42  | 26  | 25  | 7   | 10  | 37  | 324 | 342 | 276 | 7   | 74  | 115 | 191 | 310 | 325 | 329 | 335 | 335  |
| 21  | 65  | 187 | 267 | 168 | 246 | 356 | 168 | 90  | 49  | 338 | 356 | 142 | 263 | 235 | 208 | 200 | 228 | 220 | 193 | 189 | 105 | 112 | 108 | 123 | 174  |
| 22  | 25  | 195 | 67  | 15  | 315 | 115 | 107 | 91  | 89  | 179 | 315 | 41  | 19  | 34  | 23  | 219 | 196 | 162 | 162 | 179 | 172 | 177 | 220 | 193 | 126  |
| 23  | 134 | 130 | 153 | 162 | 172 | 163 | 160 | 121 | 131 | 170 | 192 | 202 | 207 | 205 | 219 | 226 | 228 | 212 | 198 | 199 | 197 | 188 | 189 | 179 | 181  |
| 24  | 166 | 176 | 153 | 192 | 191 | 178 | 167 | 163 |     |     |     |     | 191 | 198 | 212 | 205 | 193 | 190 | 193 | 183 | 152 | 173 | 175 | 179 | 182  |
| 25  | 131 | 144 | 195 | 193 | 169 | 190 | 191 | 204 | 203 | 205 | 193 | 200 | 213 | 191 | 195 | 173 | 176 | 178 | 185 | 296 | 141 | 106 | 329 | 348 | 193  |
| 26  | 24  | 326 | 323 | 305 | 296 | 231 | 160 | 122 | 293 | 355 | 319 | 312 | 287 | 34  | 28  | 334 | 323 | 304 | 55  | 220 | 170 | 236 | 223 | 287 | 302  |
| 27  | 157 | 274 | 267 | 210 | 249 | 217 | 43  | 40  | 122 | 105 | 129 | 169 | 237 | 212 | 196 | 199 | 199 | 193 | 204 | 192 | 190 | 184 | 227 |     | 193  |
| 28  | 273 | 237 | 344 | 290 | 203 | 206 | 234 | 252 | 235 | 267 | 203 | 270 | 270 | 259 | 258 | 262 | 319 | 283 | 270 | 15  | 166 | 214 | 70  | 195 | 267  |
| 29  | 197 | 207 | 216 | 140 | 209 | 184 | 111 | 244 | 249 | 273 | 275 | 255 | 276 | 234 | 240 | 232 | 225 |     | 217 | 215 | 238 | 209 | 187 | 199 | 220  |
| 30  | 227 | 235 | 217 | 253 | 46  | 209 | 232 | 36  | 30  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 216  |
| 31  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |

193 196 214 195 227 210 176 140 76 279 265 237 246 239 241 242 243 233 197 210 202 211 206 211

TOTAL NUMBER OF OBSERVATIONS = 6299 MEAN = 220.

1. TOTALS CALCULATED BASED ON THE ABOVE



TEMPERATURE VARIATION OF HORIZONTAL WIND DIRECTION AT 100 FEET  
TABLE NO. - 23 PERIOD 5/ 1/77 TO 5/31/77

HOURLY

| DAY | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1   | 127 | 100 | 106 | 114 | 105 | 132 | 143 | 148 | 112 | 160 | 195 | 193 | 203 | 188 | 195 | 205 | 243 | 218 | 207 | 214 | 258 | 306 | 297 | 305 | 179  |
| 2   | 269 | 506 | 301 | 527 | 295 | 500 | 307 | 523 | 296 | 296 | 295 | 295 | 506 | 299 | 303 | 294 | 299 | 288 | 306 | 307 | 309 | 294 | 292 | 288 | 300  |
| 3   | 296 | 500 | 295 | 286 | 503 | 296 | 310 | 508 | 525 | 319 | 323 | 321 | 319 | 340 | 360 | 327 | 318 | 331 | 337 | 291 | 274 | 243 | 268 | 265 | 306  |
| 4   | 217 | 178 | 277 | 231 | 226 | 236 | 231 | 218 | 250 | 302 | 340 | 337 | 349 | 351 | 1   | 346 | 355 | 347 | 335 | 322 | 297 | 271 | 242 | 161 | 286  |
| 5   | 165 | 342 | 529 | 110 | 155 | 169 | 10  | 119 | 103 | 21  | 350 | 324 | 333 | 345 | 347 | 330 | 323 | 338 | 280 | 214 | 191 | 242 | 158 | 160 | 322  |
| 6   | 213 | 313 | 65  | 111 | 111 | 146 | 129 | 114 | 119 | 190 | 200 | 198 | 202 | 208 | 195 | 195 | 203 | 192 | 181 | 162 | 177 | 144 | 173 | 176 | 170  |
| 7   | 169 | 165 | 151 | 165 | 163 | 126 | 129 | 130 | 138 | 257 | 196 | 194 | 198 | 203 | 211 | 212 | 204 | 191 | 196 | 201 | 188 | 181 | 123 | 71  | 174  |
| 8   | 157 | 190 | 152 | 65  | 60  | 94  | 195 | 182 | 191 | 194 | 197 | 200 | 211 | 235 | 241 | 323 | 336 | 334 | 136 | 161 | 179 | 145 | 132 | 153 | 172  |
| 9   | 204 | 191 | 135 | 115 | 133 | 182 | 185 | 179 | 171 | 184 | 191 | 195 | 198 | 210 | 215 | 212 | 209 | 203 | 190 | 183 | 174 | 202 | 265 | 303 | 192  |
| 10  | 302 | 338 | 354 | 347 | 351 | 351 | 349 | 353 | 356 | 344 | 329 | 324 | 335 | 342 | 342 | 343 | 342 | 346 | 344 | 336 | 344 | 351 | 348 | 354 | 342  |
| 11  | 358 | 354 | 354 | 335 | 340 | 342 | 331 | 326 | 341 | 352 | 344 | 359 | 1   | 3   | 359 | 4   | 14  | 18  | 24  | 29  | 38  | 29  | 248 | 158 | 356  |
| 12  | 171 | 136 | 241 | 311 | 194 | 155 | 177 | 117 | 82  | 57  | 72  | 175 | 154 | 188 | 213 | 178 | 168 | 186 | 149 | 122 | 137 | 125 | 109 | 96  | 150  |
| 13  | 157 | 121 | 136 | 179 | 181 | 177 | 191 |     |     |     |     |     | 205 | 203 | 216 | 216 | 212 | 216 | 213 | 221 | 254 | 313 | 291 | 515 | 207  |
| 14  | 295 | 264 | 265 | 275 | 252 | 234 | 217 | 73  | 319 | 319 | 329 | 320 | 325 | 314 | 287 | 278 | 250 | 248 | 92  | 177 | 258 | 285 | 133 | 131 | 273  |
| 15  | 111 | 129 | 230 | 69  | 116 | 219 | 319 | 158 | 3   | 8   | 224 | 200 | 196 | 186 | 193 | 213 | 203 | 183 | 188 | 165 | 210 | 202 | 138 | 171 | 181  |
| 16  | 161 | 182 | 149 | 136 | 116 | 161 | 156 | 167 | 189 | 191 | 205 | 200 | 203 | 206 | 209 | 214 | 222 | 238 | 243 | 221 | 303 | 136 | 176 | 205 | 187  |
| 17  | 219 | 202 | 250 | 269 | 291 | 276 | 282 | 106 | 500 | 293 | 251 | 256 | 256 | 218 | 224 | 251 | 82  | 57  | 128 | 257 | 244 | 285 | 150 | 228 | 250  |
| 18  | 224 | 155 | 158 | 156 | 207 | 271 | 283 | 276 | 270 | 278 | 282 | 283 | 264 | 280 |     | 277 | 277 | 293 | 295 | 306 | 17  | 357 | 245 | 213 | 270  |
| 19  | 179 | 199 | 201 | 201 | 204 | 202 | 198 | 197 | 206 | 212 | 196 | 203 | 206 | 210 | 219 | 210 | 214 | 204 | 187 | 192 | 203 | 228 | 221 | 227 | 204  |
| 20  | 227 | 236 | 215 | 206 | 275 | 302 | 34  | 46  | 31  | 50  | 13  | 11  | 358 | 345 | 346 | 292 | 13  | 80  | 117 | 192 | 324 | 332 | 333 | 341 | 340  |
| 21  | 24  | 139 | 150 | 123 | 224 | 198 | 146 | 67  | 5   | 531 | 348 | 149 | 260 | 236 | 217 | 208 | 233 | 227 | 200 | 198 | 142 | 151 | 146 | 168 | 182  |
| 22  | 140 | 122 | 126 | 152 | 191 | 171 | 136 | 148 | 77  | 199 | 257 | 27  | 3   | 18  | 6   | 217 | 197 | 165 | 157 | 162 | 160 | 171 | 194 | 192 | 158  |
| 23  | 194 | 165 | 162 | 146 | 157 | 153 | 152 | 134 | 140 | 174 | 130 | 199 | 204 | 204 | 216 | 223 | 224 | 210 | 197 | 194 | 184 | 189 | 186 | 178 | 182  |
| 24  | 175 | 167 | 166 | 193 | 186 | 175 | 165 | 162 |     |     |     | 194 | 201 | 215 | 208 | 197 | 194 | 201 | 201 | 188 | 159 | 176 | 178 | 186 | 184  |
| 25  | 188 | 199 | 200 | 203 | 195 | 197 | 199 | 211 | 210 | 211 | 205 | 206 | 219 | 198 | 201 | 183 | 184 | 187 | 189 | 286 | 122 | 89  | 297 | 318 | 201  |
| 26  | 351 | 305 | 296 | 266 | 275 | 222 | 133 | 94  | 6   | 525 | 320 | 318 | 259 | 52  | 23  | 334 | 324 | 316 | 334 | 172 | 240 | 66  | 235 | 245 | 312  |
| 27  | 163 | 275 | 289 | 225 | 260 | 110 | 40  | 349 | 91  | 66  | 100 | 153 | 259 | 217 | 207 | 199 | 205 | 202 | 215 | 197 | 195 | 191 | 227 | 199 | 275  |
| 28  | 200 | 296 | 335 | 296 | 291 | 276 | 253 | 259 | 260 | 273 | 270 | 277 | 276 | 267 | 267 | 270 | 315 | 283 | 277 | 337 | 119 | 182 | 296 | 143 | 275  |
| 29  | 223 | 215 | 219 | 152 | 198 | 183 | 132 | 201 | 283 | 273 | 273 | 273 | 273 | 257 | 243 | 233 | 229 |     | 221 | 219 | 237 | 221 | 195 | 198 | 223  |
| 30  | 205 | 208 | 196 | 186 | 154 | 156 | 172 | 70  | 343 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 173  |

MEAN 200 202 209 187 207 196 185 185 6 201 203 242 252 244 245 245 246 237 208 211 211 210 213 200

TOTAL NUMBER OF OBSERVATIONS = 1298 MEAN = 221.

3. INDICATES CALIBRATION DIRECTION FOR HOUR



DIURNAL VARIATION OF DIURNAL BI-VALE KIOD DIRECTION AT 200 FFEI  
 TRAILER NO. - 25 PERIOD 5/1/77 TO 5/31/77

MOON

|      | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 120 | 147 | 125 | 126 | 116 | 141 | 141 | 144 | 121 | 171 | 198 | 198 | 207 | 196 | 200 | 209 | 243 | 222 | 216 | 221 | 246 | 506 | 500 | 503 | 186  |
| 2    | 505 | 512 | 509 | 511 | 298 | 502 | 512 | 306 | 529 | 292 | 289 | 290 | 504 | 500 | 503 | 295 | 290 | 203 | 310 | 315 | 318 | 503 | 500 | 298 | 303  |
| 3    | 303 | 506 | 299 | 296 | 510 | 510 | 524 | 529 | 530 | 516 | 521 | 521 | 515 | 541 | 560 | 327 | 509 | 551 | 545 | 524 | 509 | 271 | 503 | 276 | 315  |
| 4    | 253 | 229 | 279 | 253 | 242 | 279 | 502 | 295 | 260 | 503 | 541 | 539 | 550 | 552 | 560 | 349 | 355 | 550 | 344 | 556 | 519 | 279 | 263 | 149 | 304  |
| 5    | 116 | 96  | 555 | 80  | 118 | 170 | 102 | 191 | 87  | 14  | 337 | 529 | 338 | 350 | 358 | 332 | 320 | 312 | 258 | 210 | 179 | 194 | 176 | 175 | 51   |
| 6    | 209 | 187 | 158 | 191 | 168 | 181 | 187 | 157 | 173 | 201 | 204 | 204 | 206 | 211 | 202 | 201 | 207 | 198 | 189 | 189 | 202 | 187 | 196 | 194 | 192  |
| 7    | 165 | 187 | 159 | 187 | 197 | 186 | 176 | 183 | 181 | 251 | 202 | 200 | 203 | 207 | 213 | 215 | 208 | 200 | 229 | 208 | 202 | 197 | 161 | 92  | 194  |
| 8    | 179 | 200 | 202 | 111 | 101 | 136 | 200 | 169 | 198 | 201 | 203 | 206 | 216 | 235 | 245 | 523 | 556 | 535 | 87  | 142 | 152 | 167 | 179 | 179 | 184  |
| 9    | 205 | 194 | 163 | 172 | 190 | 189 | 193 | 190 | 183 | 191 | 197 | 202 | 205 | 214 | 219 | 217 | 213 | 210 | 201 | 190 | 208 | 216 | 262 | 312 | 202  |
| 10   | 516 | 530 | 555 | 562 | 551 | 551 | 549 | 553 | 556 | 540 | 550 | 525 | 557 | 543 | 544 | 544 | 543 | 546 | 545 | 538 | 545 | 351 | 348 | 354 | 343  |
| 11   | 556 | 555 | 555 | 555 | 541 | 544 | 536 | 527 | 542 | 551 | 544 | 558 | 560 | 1   | 358 | 3   | 11  | 16  | 21  | 23  | 23  | 8   | 12  | 148 | 358  |
| 12   | 67  | 146 | 240 | 110 | 154 | 149 | 163 | 126 | 114 | 80  | 82  | 169 | 164 | 194 | 214 | 187 | 178 | 194 | 162 | 151 | 155 | 140 | 127 | 116 | 149  |
| 13   | 160 | 156 | 149 | 184 | 166 | 182 | 193 |     |     |     |     |     | 205 | 209 | 219 | 220 | 215 | 219 | 217 | 224 | 257 | 522 | 299 | 526 | 210  |
| 14   | 308 | 283 | 279 | 294 | 201 | 242 | 248 | 247 | 510 | 510 | 329 | 317 | 526 | 510 | 287 | 277 | 251 | 250 | 113 | 191 | 262 | 273 | 142 | 117 | 276  |
| 15   | 107 | 116 | 203 | 190 | 126 | 167 | 83  | 518 | 348 | 23  | 188 | 201 | 196 | 188 | 194 | 211 | 202 | 185 | 191 | 161 | 200 | 161 | 196 | 161 | 179  |
| 16   | 161 | 150 | 147 | 146 | 142 | 174 | 166 | 173 | 191 | 194 | 207 | 202 | 205 | 206 | 209 | 212 | 221 | 235 | 238 | 226 | 299 | 111 | 162 | 205 | 190  |
| 17   | 226 | 246 | 261 | 271 | 296 | 261 | 277 | 115 | 4   | 265 | 244 | 257 | 254 | 220 | 226 | 250 | 94  | 199 | 216 | 257 | 253 | 295 | 186 | 239 | 248  |
| 18   | 252 | 171 | 161 | 176 | 292 | 279 | 294 | 291 | 275 | 261 | 267 | 268 | 266 | 282 |     | 279 | 289 | 299 | 295 | 312 | 29  | 360 | 278 | 248 | 276  |
| 19   | 206 | 221 | 223 | 222 | 219 | 216 | 216 | 211 | 215 | 218 | 205 | 210 | 212 | 215 | 224 | 216 | 219 | 210 | 199 | 205 | 210 | 228 | 228 | 233 | 215  |
| 20   | 232 | 241 | 249 | 287 | 277 | 305 | 31  | 42  | 29  | 31  | 12  | 12  | 6   | 331 | 342 | 262 | 6   | 73  | 194 | 194 | 325 | 336 | 329 | 340 | 336  |
| 21   | 3   | 105 | 125 | 65  | 241 | 210 | 164 | 191 | 201 | 536 | 3   | 161 | 263 | 236 | 219 | 210 | 231 | 225 | 203 | 205 | 206 | 191 | 193 | 205 | 204  |
| 22   | 175 | 165 | 175 | 171 | 178 | 171 | 160 | 172 | 125 | 163 | 209 | 79  | 350 | 24  | 4   | 207 | 193 | 164 | 156 | 153 | 149 | 168 | 183 | 191 | 167  |
| 23   | 197 | 167 | 158 | 161 | 165 | 150 | 155 | 146 | 153 | 160 | 197 | 205 | 206 | 210 | 219 | 220 | 226 | 214 | 206 | 207 | 191 | 202 | 200 | 194 | 187  |
| 24   | 191 | 176 | 186 | 196 | 196 | 181 | 175 | 179 |     |     |     | 202 | 207 | 221 | 213 | 201 | 190 | 204 | 205 | 194 | 171 | 182 | 164 | 185 | 192  |
| 25   | 188 | 197 | 197 | 200 | 193 | 195 | 198 | 206 | 207 | 209 | 206 | 206 | 295 | 41  | 3   | 523 | 510 | 298 | 198 | 287 | 136 | 103 | 298 | 327 | 201  |
| 26   | 1   | 518 | 505 | 294 | 276 | 224 | 146 | 167 | 50  | 535 | 515 | 520 | 295 | 41  | 3   | 523 | 510 | 298 | 219 | 178 | 256 | 170 | 140 | 252 | 296  |
| 27   | 227 | 201 | 295 | 261 | 262 | 196 | 121 | 218 | 110 | 65  | 116 | 160 | 220 | 216 | 205 | 199 | 202 | 202 | 215 | 205 | 203 | 199 | 229 |     | 206  |
| 28   | 261 | 501 | 559 | 505 | 296 | 276 | 264 | 261 | 261 | 275 | 273 | 278 | 279 | 269 | 268 | 270 | 352 | 286 | 281 | 560 | 114 | 200 | 305 | 76  | 285  |
| 29   | 271 | 255 | 247 | 220 | 223 | 218 | 214 | 228 | 298 | 278 | 277 | 258 | 280 | 243 | 247 | 235 | 236 |     | 230 | 227 | 239 | 235 | 225 | 225 | 242  |
| 30   | 225 | 237 | 233 | 216 | 206 | 208 | 179 | 121 | 358 | 360 | 41  | 351 | 117 | 171 | 175 | 165 | 177 | 161 | 182 | 176 | 151 | 122 | 74  | 133 | 170  |
| 31   | 245 | 245 | 64  | 225 | 203 | 198 | 205 | 25  | 216 | 225 | 224 | 230 | 221 | 232 | 226 | 231 | 224 | 233 | 233 | 237 | 292 | 309 | 297 | 292 | 239  |
| MEAN | 220 | 219 | 220 | 210 | 218 | 209 | 195 | 169 | 227 | 279 | 258 | 245 | 249 | 243 | 244 | 245 | 242 | 234 | 215 | 216 | 223 | 219 | 228 | 215 |      |

TOTAL NUMBER OF OBSERVATIONS = 8756 MEAN = 226°

1. LOGICATES CALCULATIONS DURING THE HOUR

DIURNAL VARIATION OF VERTICAL S.I.-WAVE WIND DIRECTION AT 50 FEET  
TABLE NO. - 23 PERIOD 3/ 1/77 to 3/31/77)

hour

| DAY   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1     | -10 | -6  | -9  | -8  | -5  | -6  | -8  | -6  | -4  | -3  | 0   | 0   | 0   | 0   | 0   | 0   | 1   | -4  | -5  | -7  | -2  | 6   | -4  | -4  | -6   |
| 2     | -3  | -6  | -11 | -3  | 0   | 5   | 4   | 18  | 31  | 7   | 0   | 0   | 0   | -3  | -4  | -6  | -6  | -8  | -9  | -10 | -12 | -12 | -9  | -3  | -2   |
| 3     | 0   | 5   | 6   | 16  | 35  | 34  | 31  | 34  | 34  | 26  | 15  | 0   | 0   | 0   | -1  | -4  | -7  | -6  | -8  | -12 | -11 | -10 | -10 | -8  | 5    |
| 4     | -4  | 13  | 7   | 17  | 34  | 32  | 34  | 34  | 34  | 32  | 8   | 2   | 0   | -3  | -4  | -5  | -5  | -6  | -10 | -13 | -12 | -11 | -9  | -6  | 6    |
| 5     | 0   | 14  | 35  | 19  | 52  | 20  | 33  | 25  | 16  | 26  | 0   | -6  | -9  | -11 | -17 | -17 | -9  | -19 | -22 | -11 | -18 | -25 | -26 | -19 | -0   |
| 6     | -22 | -25 | -19 | -17 | -15 | -16 | -19 | -14 | -25 | -12 | -10 | -9  | -8  | -8  | -8  | -9  | -6  | -6  | -6  | -9  | -22 | -13 | -14 | -16 | -15  |
| 7     | -11 | -11 | -12 | -13 | -17 | -12 | -10 | -12 | -14 | -14 | -5  | -2  | -2  | -2  | 0   | 0   | -1  | 0   | -16 | -5  | -2  | -8  | -6  | -3  | -8   |
| 8     | -4  | -7  | -9  | -1  | -3  | -7  | -10 | -4  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | -9  | -3  | -6  | -18 | -13 | -6  | -5   |
| 9     | -31 | -15 | -0  | -3  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | -4  | -2  | -2  | 0   | -3  |      |
| 10    | -5  | 0   | 5   | -6  | -3  | -2  | -2  | -4  | -4  | -5  | -6  | -6  | -6  | -6  | -6  | -7  | -6  | -9  | -9  | -11 | -10 | -11 | -10 | -7  |      |
| 11    | -11 | -12 | -12 | -13 | -13 | -10 | -14 | -15 | -13 | -12 | -11 | -9  | -9  | -8  | -8  | -8  | -7  | -8  | -8  | -11 | -14 | -15 | -32 | -13 | -13  |
| 12    | -25 | -6  | -5  | -32 | -9  | -10 | -25 | -26 | -22 | -19 | -13 | -15 | -11 | -11 | -13 | -9  | -7  | -9  | -10 | -18 | -15 | -7  | -6  | -7  | -14  |
| 13    | -6  | -6  | -6  | -6  | -6  | -6  | -6  | -6  | -6  | -6  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | -1  | -5  | -10 | 0   | -25 | -11 | -6   |
| 14    | -12 | -9  | -11 | -14 | -19 | -11 | -25 | -32 | -15 | -11 | -11 | -5  | -6  | -10 | -8  | -16 | -14 | -15 | -16 | -13 | -15 | -22 | -11 | 1   | -14  |
| 15    | 2   | 4   | 5   | 0   | 2   | -4  | -5  | -9  | -13 | -19 | -10 | -5  | -6  | -5  | -4  | -2  | -1  | -4  | -7  | -8  | -6  | -13 | -20 | -6  | -6   |
| 16    | -6  | -5  | -19 | -7  | -7  | -6  | -5  | -5  | -1  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 0   | -11 | -2  | -1  | -6  | -4   |
| 17    | 0   | 0   | 0   | 0   | 0   | -7  | 3   | 45  | 45  | 45  | 45  | 15  | 12  | 4   | 1   | 5   | 15  | 22  | 32  | 25  | 4   | 34  | 22  | 7   | 15   |
| 18    | 0   | 55  | 15  | 6   | 29  | 8   | 26  | 15  | -2  | -4  | -4  | -4  | -4  | -6  | -6  | -9  | -10 | -10 | -10 | -9  | -12 | -29 | -19 | -19 | -0   |
| 19    | -22 | -16 | -17 | -21 | -16 | -19 | -14 | -17 | -13 | -10 | -10 | -10 | -9  | -8  | -7  | -7  | -6  | -6  | -7  | -6  | -8  | -6  | -6  | -7  | -12  |
| 20    | -6  | -6  | -9  | -9  | -7  | -9  | -6  | -16 | -12 | -13 | -13 | -14 | -16 | -12 | -10 | -14 | -11 | -10 | -15 | -19 | -11 | -11 | -15 | -10 | -12  |
| 21    | -18 | -16 | -25 | -20 | -17 | -24 | -27 | -24 | -14 | -14 | -15 | -15 | -14 | -10 | -9  | -5  | -10 | -6  | -9  | -10 | -19 | -13 | -16 | -19 | -17  |
| 22    | -15 | -15 | -15 | -11 | -2  | -24 | -15 | -12 | -11 | -22 | -26 | -19 | -13 | -8  | -16 | -12 | -6  | -5  | -2  | -3  | -4  | -21 | -24 | -20 | -14  |
| 23    | -51 | -29 | -12 | -2  | -5  | -5  | -5  | -5  | -4  | 0   | 0   | 0   | 6   | 6   | 6   | 6   | 6   | 6   | 0   | 0   | 0   | 0   | 0   | 0   | -4   |
| 24    | 0   | 0   | -2  | -1  | 0   | 0   | 0   | -1  |     |     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | -1  | 0   | 0   | 0   | -0   |
| 25    | 0   | 0   | 0   | 0   | 0   | 0   | -4  | -7  | -6  | -6  | -7  | -7  | -7  | -10 | -8  | -7  | -10 | -12 | -11 | -14 | 10  | 28  | 30  | 29  | -1   |
| 26    | 16  | 21  | 15  | 50  | 29  | 50  | 30  | 29  | 29  | 26  | 15  | 0   | 9   | -12 | -20 | -15 | -16 | -19 | 21  | -25 | -26 | -25 | -21 | -19 | 3    |
| 27    | -55 | -26 | -24 | -50 | -27 | -27 | 2   | -15 | -14 | -16 | -9  | -13 | -11 | -19 | -6  | -6  | -6  | -3  | -4  | -4  | -5  | -4  | -4  | -4  | -13  |
| 28    | -7  | -7  | -13 | -0  | -9  | -12 | -20 | -10 | -9  | -16 | -6  | -6  | -9  | -6  | -7  | -8  | -5  | -19 | -10 | -19 | -21 | -19 | -24 | -23 | -13  |
| 29    | -16 | -11 | -22 | -56 | -21 | -21 | -21 | -22 | -14 | -16 | -9  | -8  | -6  | -6  | -7  | -6  | -10 | -8  | -10 | -19 | -24 | -24 | -20 | -14 | -16  |
| 30    | -16 | -22 | -21 | -22 | -24 | -13 | 13  | -14 | -56 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | -19  |
| 31    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
| TOTAL | -11 | -5  | -7  | -7  | -3  | -5  | -5  | -3  | -2  | -2  | -2  | -4  | -5  | -6  | -6  | -6  | -6  | -6  | -6  | -9  | -11 | -10 | -10 | -9  | -2   |

TOTAL NUMBER OF OBSERVATIONS = 8297 MEAN = -7.

3 LOCATES CALCULATED FOR HOUR

DIURNAL VARIATION OF VERTICAL BI-WAVE "LEAD" DIRECTION AT 100 FEET  
TRAILER NO. - 25 PERIOD 3/ 1/77 TO 5/31/77

HOUR

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | -15 | -16 | -18 | -18 | -15 | -10 | -9  | -10 | -11 | -10 | -10 | -10 | -10 | -10 | -11 | -10 | -8  | -9  | -10 | -9  | -13 | -14 | -16 | -10 | -12  |
| 2    | -15 | -16 | -18 | -18 | -25 | -22 | -19 | -28 | -38 | -19 | -12 | -12 | -12 | -10 | -10 | -13 | -14 | -14 | -13 | -13 | -12 | -18 | -21 | -26 | -18  |
| 3    | -20 | -28 | -30 | -30 | -36 | -44 | -34 | -44 | -44 | -55 | -22 | -15 | -12 | -14 | -15 | -16 | -29 | -19 | -18 | -30 | -27 | -38 | -42 | -38 | -30  |
| 4    | -51 | -44 | -35 | -35 | -36 | -44 | -44 | -44 | -44 | -42 | -20 | -16 | -15 | -11 | -9  | -9  | -11 | -11 | -12 | -15 | -14 | -19 | -23 | -21 | -27  |
| 5    | -29 | -44 | -44 | -44 | -37 | -36 | -43 | -21 | -22 | -38 | -16 | -14 | -17 | -19 | -28 | -25 | -15 | -24 | -27 | -14 | -15 | -32 | -52 | -37 | -29  |
| 6    | -20 | -36 | -36 | -28 | -28 | -21 | -27 | -19 | -32 | -19 | -11 | -14 | -13 | -12 | -12 | -12 | -14 | -13 | -12 | -16 | -23 | -22 | -18 | -13 | -21  |
| 7    | -10 | -15 | -10 | -15 | -20 | -20 | -20 | -22 | -23 | -23 | -15 | -14 | -14 | -15 | -15 | -15 | -10 | -16 | -20 | -15 | -10 | -17 | -22 | -22 | -18  |
| 8    | -25 | -15 | -21 | -25 | -25 | -22 | -22 | -16 | -17 | -19 | -19 | -19 | -20 | -20 | -20 | -21 | -22 | -20 | -25 | -20 | -24 | -34 | -32 | -25 | -23  |
| 9    | -20 | -20 | -25 | -29 | -21 | -21 | -20 | -20 | -20 | -19 | -19 | -19 | -19 | -20 | -18 | -19 | -16 | -20 | -20 | -20 | -23 | -21 | -22 | -21 | -20  |
| 10   | -10 | -17 | -21 | -21 | -20 | -20 | -21 | -19 | -16 | -19 | -18 | -18 | -16 | -17 | -14 | -19 | -20 | -20 | -20 | -19 | -20 | -20 | -21 | -22 | -20  |
| 11   | -22 | -25 | -22 | -22 | -21 | -22 | -22 | -22 | -21 | -22 | -21 | -20 | -21 | -21 | -20 | -20 | -20 | -21 | -22 | -22 | -23 | -30 | -35 | -38 | -24  |
| 12   | -35 | -40 | -41 | -41 | -34 | -34 | -30 | -25 | -49 | -22 | -26 | -23 | -23 | -25 | -22 | -22 | -25 | -24 | -24 | -30 | -26 | -25 | -25 | -25 | -29  |
| 13   | -25 | -20 | -22 | -21 | -21 | -22 | -21 | -38 | -22 | -24 | -22 | -21 | -21 | -24 | -23 | -21 | -24 | -23 | -25 | -24 | -22 | -23 | -27 | -23 | -23  |
| 14   | -25 | -26 | -25 | -25 | -25 | -22 | -26 | -38 | -22 | -24 | -22 | -21 | -21 | -24 | -23 | -21 | -24 | -23 | -25 | -24 | -23 | -30 | -39 | -36 | -27  |
| 15   | -35 | -26 | -35 | -35 | -40 | -37 | -39 | -38 | -37 | -31 | -24 | -20 | -21 | -21 | -22 | -21 | -22 | -23 | -22 | -27 | -26 | -35 | -35 | -24 | -30  |
| 16   | -24 | -25 | -29 | -29 | -26 | -26 | -25 | -24 | -22 | -42 | -40 | -22 | -20 | -21 | -18 | -20 | -26 | -30 | -36 | -29 | -19 | -37 | -30 | -22 | -25  |
| 17   | -25 | -22 | -22 | -22 | -22 | -24 | -29 | -44 | -42 | -42 | -40 | -22 | -20 | -19 | -18 | -20 | -26 | -30 | -36 | -29 | -19 | -37 | -30 | -22 | -29  |
| 18   | -20 | -41 | -25 | -25 | -21 | -29 | -25 | -31 | -33 | -26 | -20 | -20 | -22 | -20 | -21 | -21 | -21 | -20 | -21 | -20 | -22 | -38 | -31 | -29 | -26  |
| 19   | -50 | -25 | -25 | -25 | -25 | -23 | -23 | -22 | -22 | -21 | -20 | -21 | -20 | -21 | -20 | -20 | -20 | -26 | -21 | -21 | -20 | -20 | -19 | -19 | -22  |
| 20   | -20 | -20 | -21 | -21 | -20 | -20 | -22 | -23 | -24 | -23 | -22 | -27 | -26 | -25 | -22 | -25 | -29 | -24 | -23 | -23 | -22 | -23 | -23 | -22 | -24  |
| 21   | -25 | -24 | -29 | -31 | -22 | -34 | -35 | -37 | -32 | -21 | -25 | -16 | -10 | -10 | -17 | -19 | -19 | -21 | -22 | -21 | -26 | -31 | -31 | -31 | -26  |
| 22   | -55 | -27 | -30 | -39 | -27 | -35 | -29 | -34 | -24 | -30 | -30 | -25 | -27 | -27 | -26 | -21 | -24 | -25 | -21 | -24 | -25 | -28 | -38 | -26 | -29  |
| 23   | -50 | -30 | -19 | -21 | -20 | -21 | -21 | -25 | -21 | -18 | -17 | -18 | -19 | -17 | -18 | -19 | -19 | -19 | -19 | -20 | -19 | -19 | -19 | -18 | -21  |
| 24   | -15 | -18 | -21 | -20 | -20 | -19 | -20 | -20 | -20 | -20 | -17 | -17 | -17 | -18 | -17 | -18 | -18 | -19 | -19 | -20 | -20 | -20 | -19 | -18 | -20  |
| 25   | -17 | -17 | -16 | -17 | -17 | -16 | -18 | -21 | -22 | -22 | -22 | -21 | -22 | -22 | -22 | -22 | -22 | -23 | -22 | -24 | -28 | -31 | -41 | -35 | -24  |
| 26   | -50 | -32 | -22 | -35 | -39 | -44 | -44 | -35 | -42 | -34 | -24 | -19 | -27 | -38 | -25 | -25 | -26 | -26 | -22 | -30 | -35 | -44 | -44 | -35 | -35  |
| 27   | -50 | -26 | -29 | -35 | -34 | -40 | -43 | -40 | -32 | -24 | -30 | -25 | -26 | -22 | -22 | -20 | -21 | -22 | -22 | -22 | -22 | -22 | -23 | -23 | -29  |
| 28   | -25 | -21 | -25 | -22 | -22 | -22 | -24 | -22 | -21 | -20 | -21 | -21 | -20 | -20 | -19 | -19 | -20 | -25 | -20 | -24 | -25 | -23 | -29 | -30 | -23  |
| 29   | -26 | -25 | -27 | -31 | -24 | -25 | -28 | -25 | -21 | -19 | -19 | -18 | -17 | -16 | -18 | -19 | -18 | -19 | -21 | -24 | -28 | -25 | -22 | -22 | -23  |
| 30   | -25 | -27 | -31 | -36 | -41 | -36 | -41 | -51 | -20 | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | -33  |
| 31   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :    |
| MEAN | -26 | -27 | -27 | -26 | -26 | -26 | -26 | -26 | -26 | -26 | -22 | -20 | -20 | -20 | -20 | -20 | -21 | -21 | -22 | -22 | -23 | -28 | -29 | -26 | :    |

TOTAL NUMBER OF OBSERVATIONS = 8299 MEAN = -25.

: INDICATES CALCULATIONS FOR THE HOUR



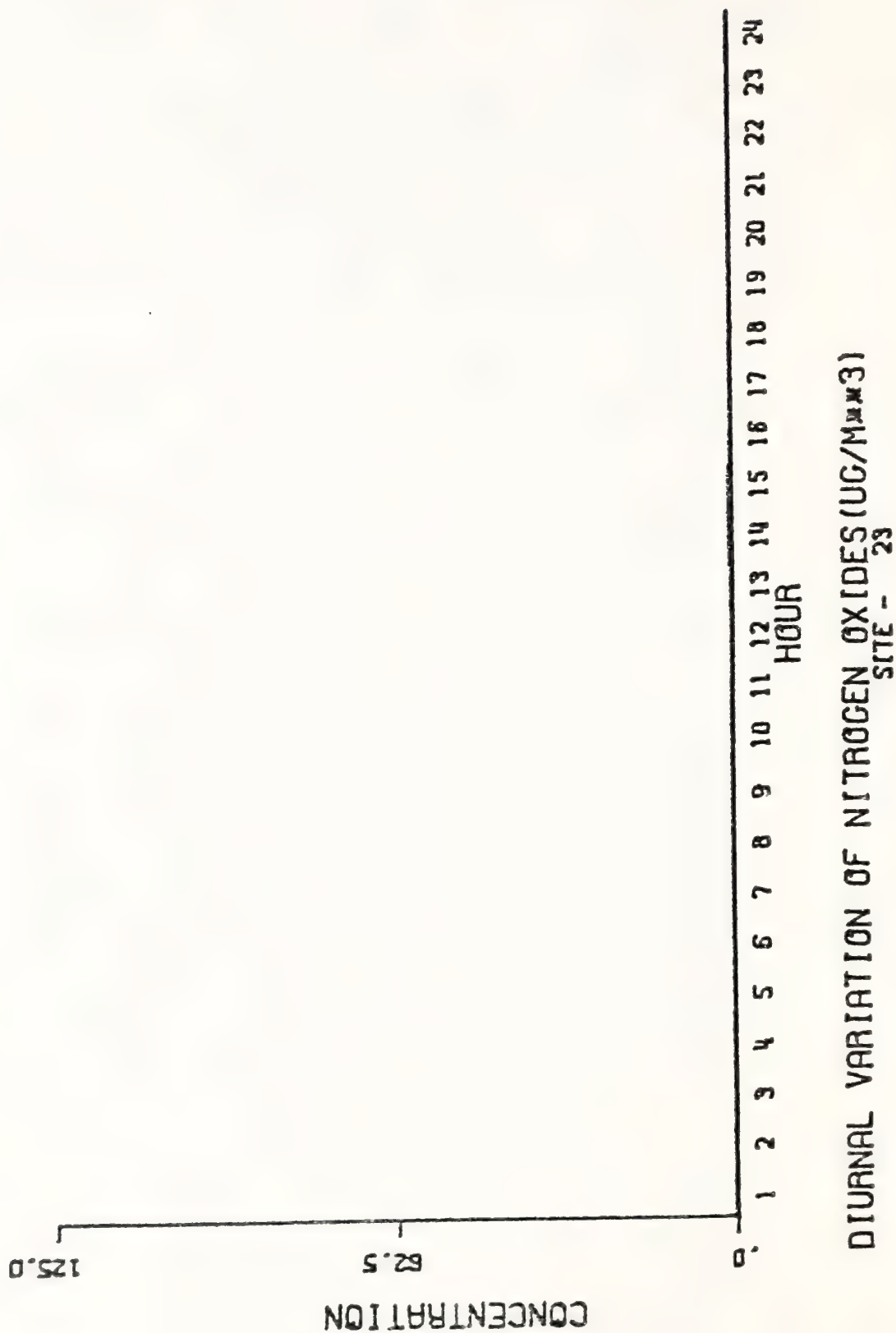
DIURNAL VARIATION OF VERTICAL BI-VANE FLOW DIRECTION AT 200 FEET  
TRAILER NO. - 23 PERIOD 5/ 1/77 TO 5/31/77

MOOR

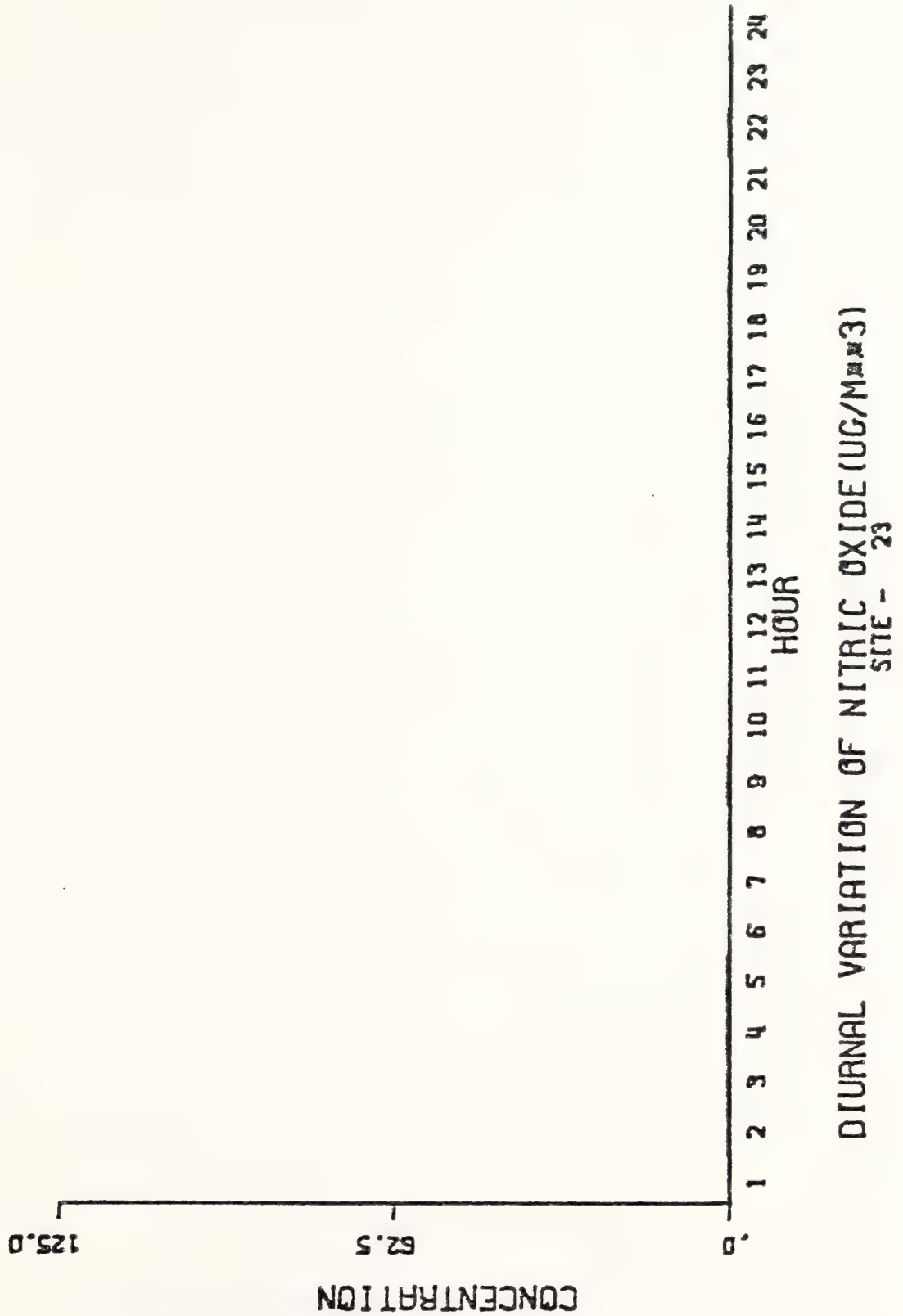
| DAY   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1     | -7  | -7  | -6  | -5  | -7  | -6  | -7  | -7  | -6  | -5  | -7  | -6  | -6  | -6  | -6  | -6  | -4  | -6  | -7  | -7  | -5  | -5  | -3  | -4  | -7   |
| 2     | -2  | -5  | -9  | -11 | -13 | -13 | -12 | -17 | -21 | -14 | -6  | -4  | -5  | -5  | -3  | -2  | -5  | -5  | -4  | -6  | -7  | -10 | -11 | -15 | -9   |
| 3     | -16 | -18 | -21 | -22 | -34 | -40 | -29 | -42 | -41 | -36 | -19 | -10 | -4  | -4  | -5  | -1  | -2  | -3  | -1  | 0   | -2  | -10 | -21 | -15 | -17  |
| 4     | -25 | -37 | -21 | 16  | 50  | 50  | 50  | 50  | 50  | 21  | -20 | -17 | -11 | -7  | -7  | -6  | -5  | -5  | -3  | -3  | -5  | -4  | -6  | -14 | -2   |
| 5     | -19 | -18 | 21  | -22 | -26 | 17  | 22  | -14 | -15 | -17 | -6  | -3  | -5  | -5  | 0   | 0   | -3  | -3  | -3  | -8  | -6  | -3  | -5  | -5  | -6   |
| 6     | -3  | 3   | 0   | 3   | 0   | -5  | -1  | -1  | -5  | -7  | -8  | -11 | -8  | -6  | -4  | -5  | -10 | -9  | -9  | -10 | -6  | -7  | -3  | -4  | -6   |
| 7     | -6  | -7  | -9  | -9  | -8  | -6  | -10 | -6  | -3  | 0   | -4  | -7  | -8  | -7  | -7  | -8  | -4  | -7  | -2  | -7  | -9  | -9  | -6  | -7  | -7   |
| 8     | -5  | -6  | 0   | -7  | -4  | -2  | -2  | -1  | -6  | -7  | -7  | -5  | -6  | -4  | -2  | -3  | 0   | 0   | 6   | 0   | 0   | 0   | -1  | -3  | -3   |
| 9     | -5  | -2  | 6   | -1  | -4  | -5  | -5  | -5  | -5  | -2  | -3  | -4  | -2  | -4  | -4  | -3  | -3  | -3  | -4  | -4  | 0   | -1  | -2  | 0   | -4   |
| 10    | -2  | -2  | -4  | -4  | -5  | -5  | -5  | -4  | -4  | -4  | -4  | -4  | -3  | -4  | -4  | -4  | -4  | -4  | -5  | -4  | -4  | -4  | -3  | -4  | -5   |
| 11    | -4  | -4  | -5  | -5  | -5  | -5  | -5  | -6  | -5  | -4  | -5  | -5  | -4  | -5  | -3  | -3  | -3  | -3  | -5  | -3  | -2  | -1  | 2   | 0   | -4   |
| 12    | 0   | -5  | -9  | -17 | -19 | -17 | -18 | -10 | -7  | 0   | 0   | 0   | -7  | -7  | -3  | -3  | -7  | -6  | -7  | -7  | -8  | -8  | -8  | -7  | -8   |
| 13    | -9  | -10 | -7  | -6  | -8  | -9  | -9  |     |     |     |     |     | -6  | -7  | -7  | -7  | -7  | -8  | -9  | -9  | -4  | 2   | 5   | 3   | -7   |
| 14    | 5   | 5   | 5   | 5   | -1  | -5  | -4  | -5  | -4  | -6  | -1  | -4  | -2  | -4  | -4  | -2  | -4  | -4  | -6  | -6  | -6  | -14 | -40 | -36 | -6   |
| 15    | -32 | -41 | -41 | 27  | 50  | -2  | 32  | -22 | -20 | -5  | -5  | -9  | -9  | -7  | -11 | -10 | -10 | -11 | -12 | -4  | -12 | -5  | -2  | -10 | -8   |
| 16    | -15 | -16 | -9  | -15 | -14 | -15 | -17 | -15 | -10 | -12 | -15 | -14 | -13 | -11 | -15 | -13 | -10 | -3  | -1  | 0   | 0   | 3   | -1  | -5  | -10  |
| 17    | -7  | -7  | -5  | -1  | -1  | 3   | -9  | 45  | 50  | 46  | 18  | -11 | -12 | -12 | -10 | -9  | -7  | -9  | -13 | -12 | -9  | -14 | -24 | -12 | -2   |
| 18    | -10 | -22 | -13 | -16 | -19 | -10 | -14 | -21 | -16 | -10 | -11 | -11 | -9  | -8  |     | -10 | -12 | -14 | -14 | -13 | -11 | -4  | -12 | -8  | -14  |
| 19    | -4  | -20 | -21 | -21 | -20 | -20 | -19 | -17 | -17 | -17 | -16 | -16 | -16 | -16 | -17 | -13 | -16 | -17 | -19 | -19 | -17 | -13 | -16 | -13 | -18  |
| 20    | -16 | -10 | -17 | -15 | -13 | -14 | -12 | -16 | -6  | -6  | -6  | -10 | -3  | -2  | -5  | -6  | -4  | -9  | -12 | -6  | -9  | -11 | -10 | -13 | -11  |
| 21    | -7  | -11 | -9  | 0   | -12 | -7  | -5  | -1  | -3  | -5  | 0   | -4  | -3  | -9  | -9  | -11 | -7  | -14 | -17 | -17 | -6  | -6  | -7  | -8  | -8   |
| 22    | -5  | -6  | -6  | -6  | -9  | -9  | -6  | -7  | -5  | -3  | 10  | 7   | -1  | -6  | -4  | 0   | -1  | -7  | -10 | -4  | 2   | -7  | 0   | -9  | -5   |
| 23    | -4  | -9  | -13 | -14 | -13 | -10 | -7  | -10 | -9  | -9  | -11 | -13 | -14 | -9  | -10 | -11 | -5  | -2  | -8  | 14  | 25  | 2   | 0   | -5  | -7   |
| 24    | -5  | -6  | -6  | -6  | -5  | -4  | -5  | -4  |     |     | 0   | 0   | 0   | 3   | -7  | -8  | -9  | -9  | -12 | -14 | -14 | -13 | -12 | -13 | -7   |
| 25    | -11 | -10 | -9  | 1   | 1   | -1  | -6  | -11 | -11 | -11 | -12 | -13 | -14 | -12 | -12 | -13 | -11 | -14 | -14 | -13 | -24 | -21 | 2   | -26 | -12  |
| 26    | -15 | -21 | -15 | -22 | -22 | -34 | -36 | -26 | -14 | 5   | -14 | -7  | -6  | -11 | 0   | -5  | -2  | -4  | 7   | 0   | 1   | 3   | 6   | 0   | -10  |
| 27    | 0   | -1  | -2  | 6   | 6   | 0   | 7   | 9   | -1  | -4  | -8  | -2  | -5  | -5  | -5  | -7  | -8  | -9  | -11 | -11 | -13 | -13 | -11 | -5  | -5   |
| 28    | -6  | -6  | -4  | -5  | -4  | -4  | -4  | -5  | -5  | -5  | -5  | -6  | -4  | -6  | -6  | -6  | -6  | -2  | -6  | -2  | -2  | -7  | -4  | 1   | -5   |
| 29    | -2  | -9  | -10 | -7  | -10 | -7  | -4  | -8  | -5  | -6  | -7  | -8  | -7  | -10 | -9  | -8  | -10 | -12 | -13 | -9  | -8  | -15 | -14 | -10 | -10  |
| 30    | -10 | -12 | -9  | -13 | -4  | -5  | 3   | 0   | 0   | 2   | -7  | -4  | -2  | -5  | -6  | -9  | -9  | -8  | -8  | -8  | 10  | 6   | 1   | 0   | -5   |
| 31    | -6  | 6   | 1   | -1  | -4  | -14 | -5  | 5   | 0   | -10 | -6  | -9  | -11 | -10 | -7  | -7  | -9  | -8  | -7  | 19  | 13  | -1  | 15  | 12  | -3   |
| TOTAL | -9  | -11 | -9  | -7  | -7  | -7  | -5  | -6  | -6  | -5  | -7  | -6  | -6  | -6  | -7  | -7  | -7  | -8  | -8  | -8  | -6  | -5  | -7  | -7  | -9   |

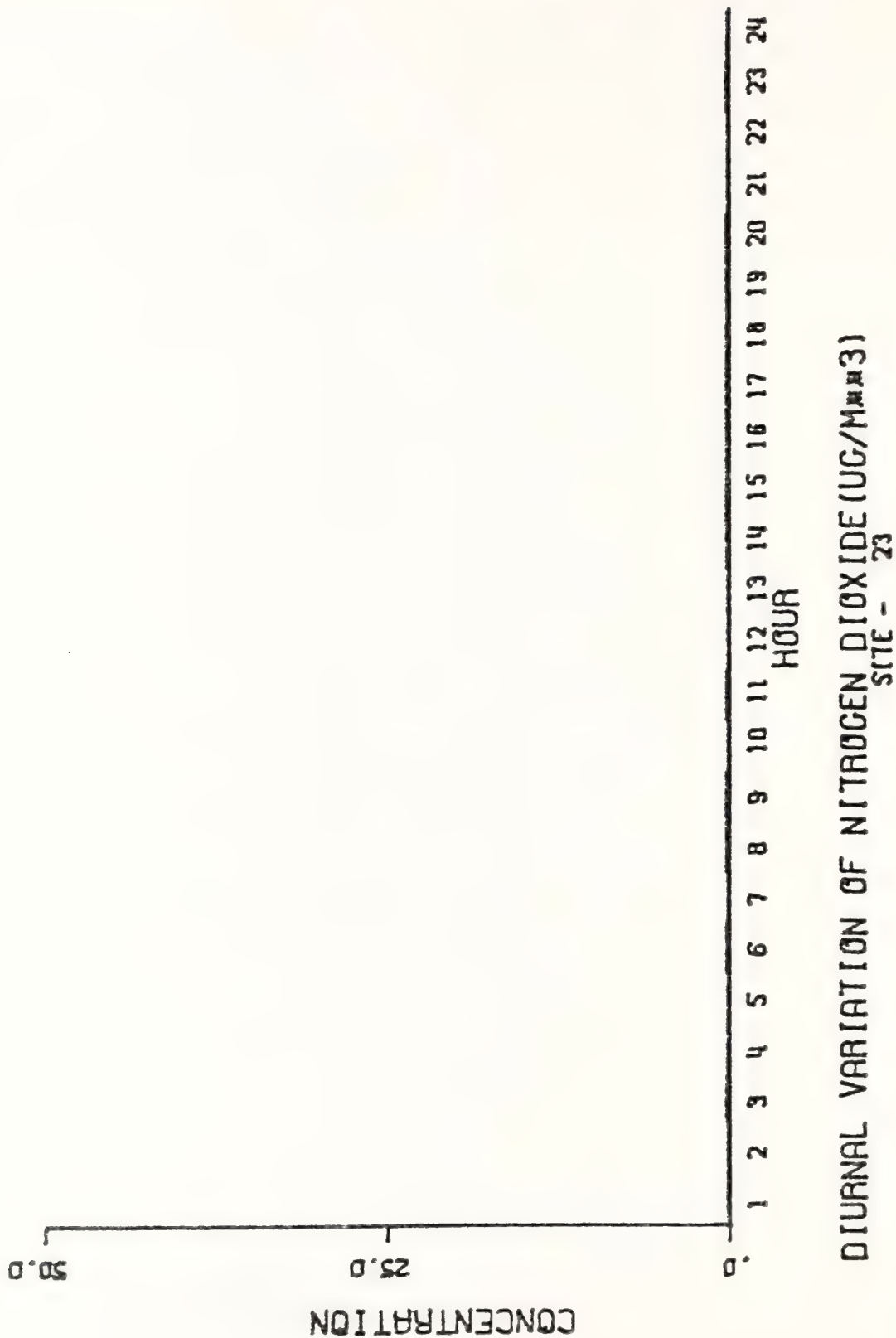
TOTAL NUMBER OF OBSERVATIONS = 8755 MEAN = -8.

1. NOT AYES CALIBRATION, USED TO, FOR, BUREAU

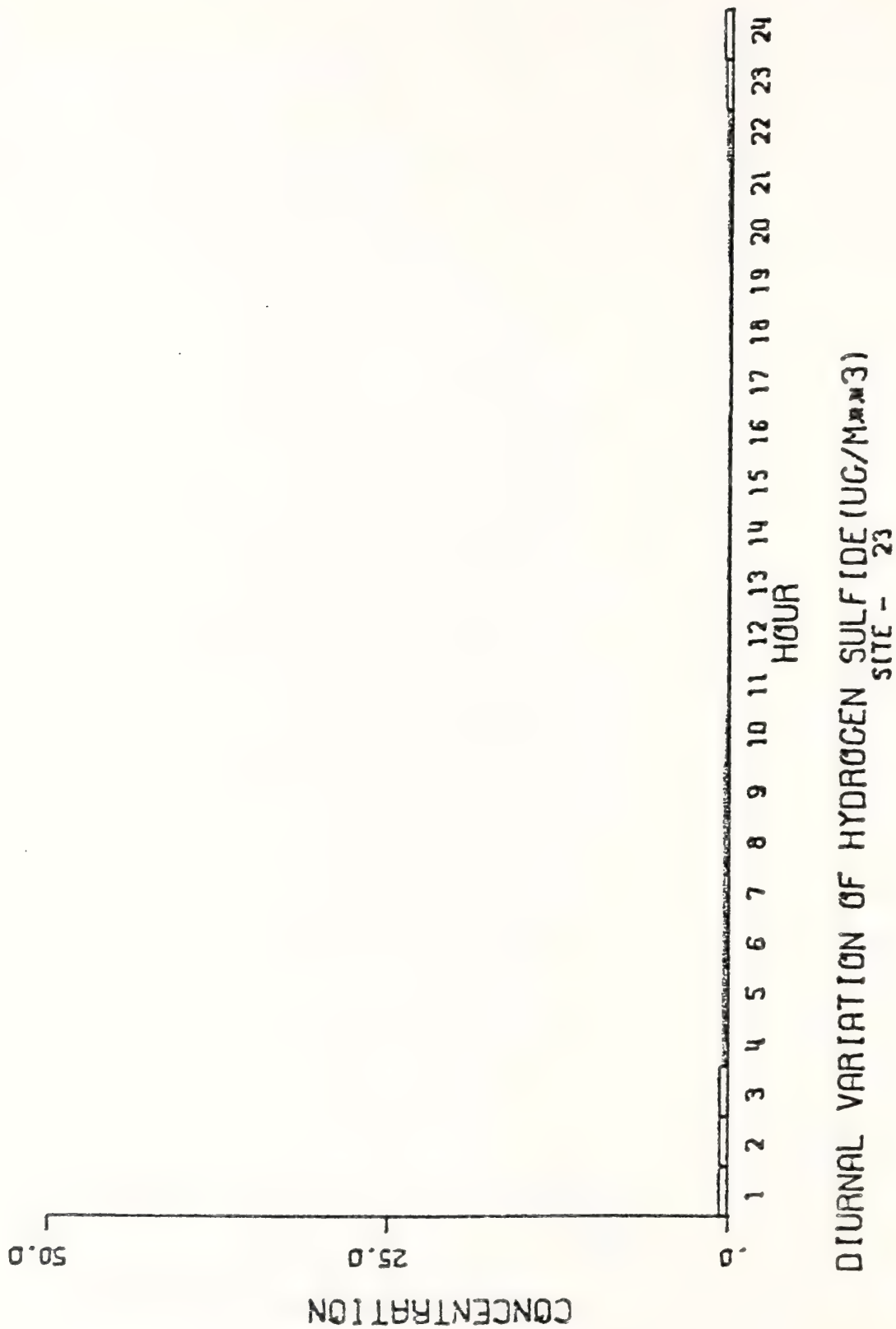


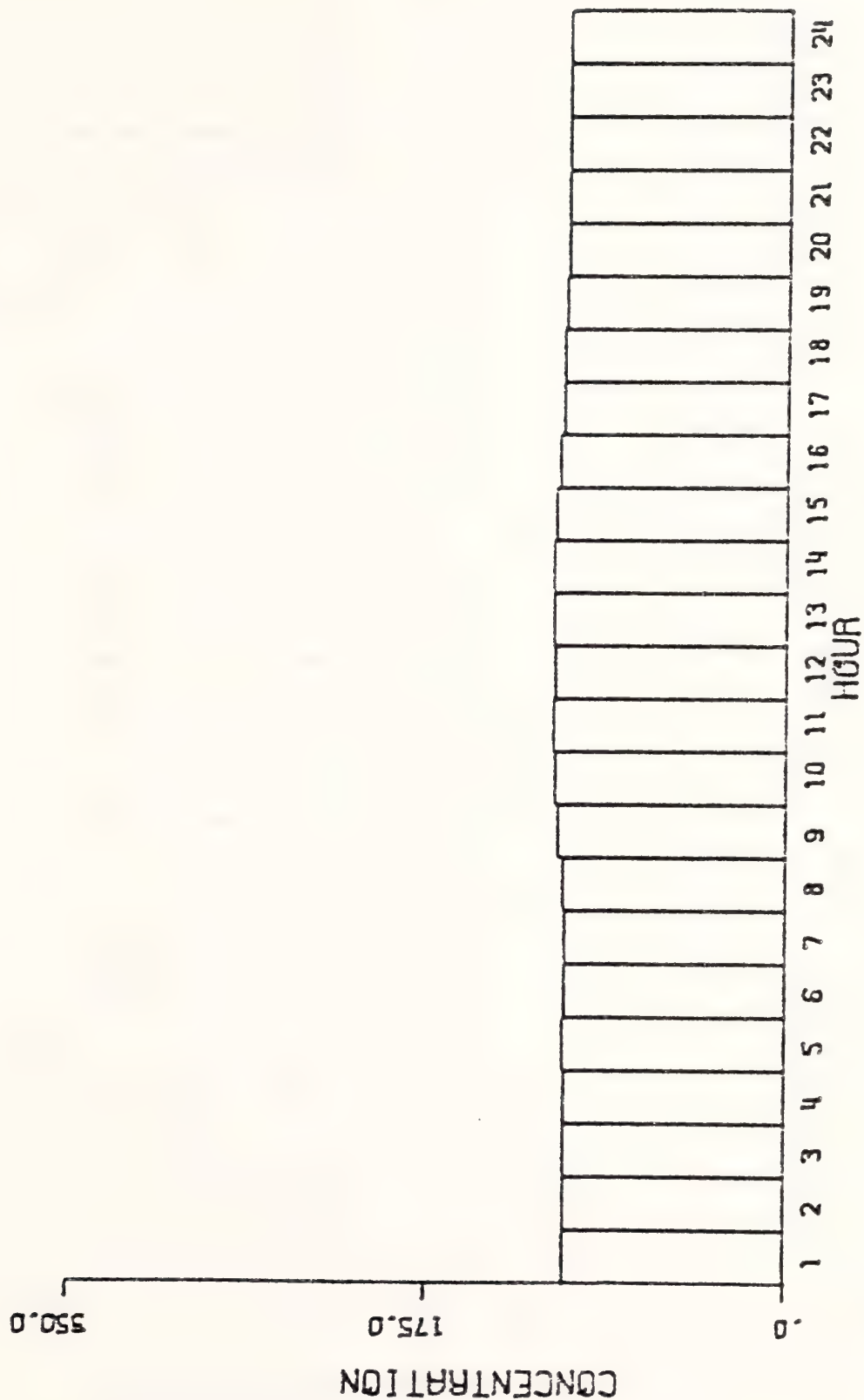






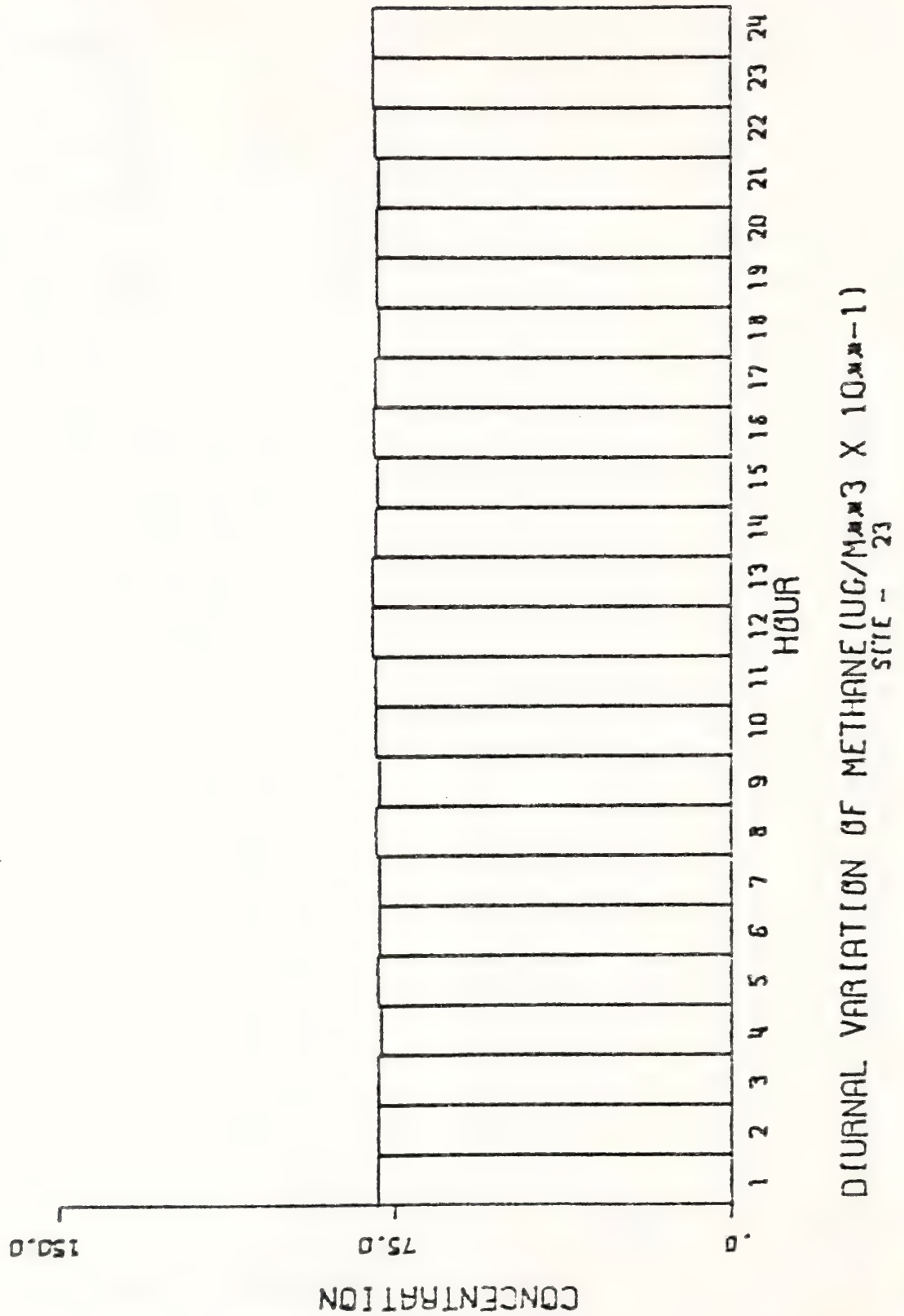


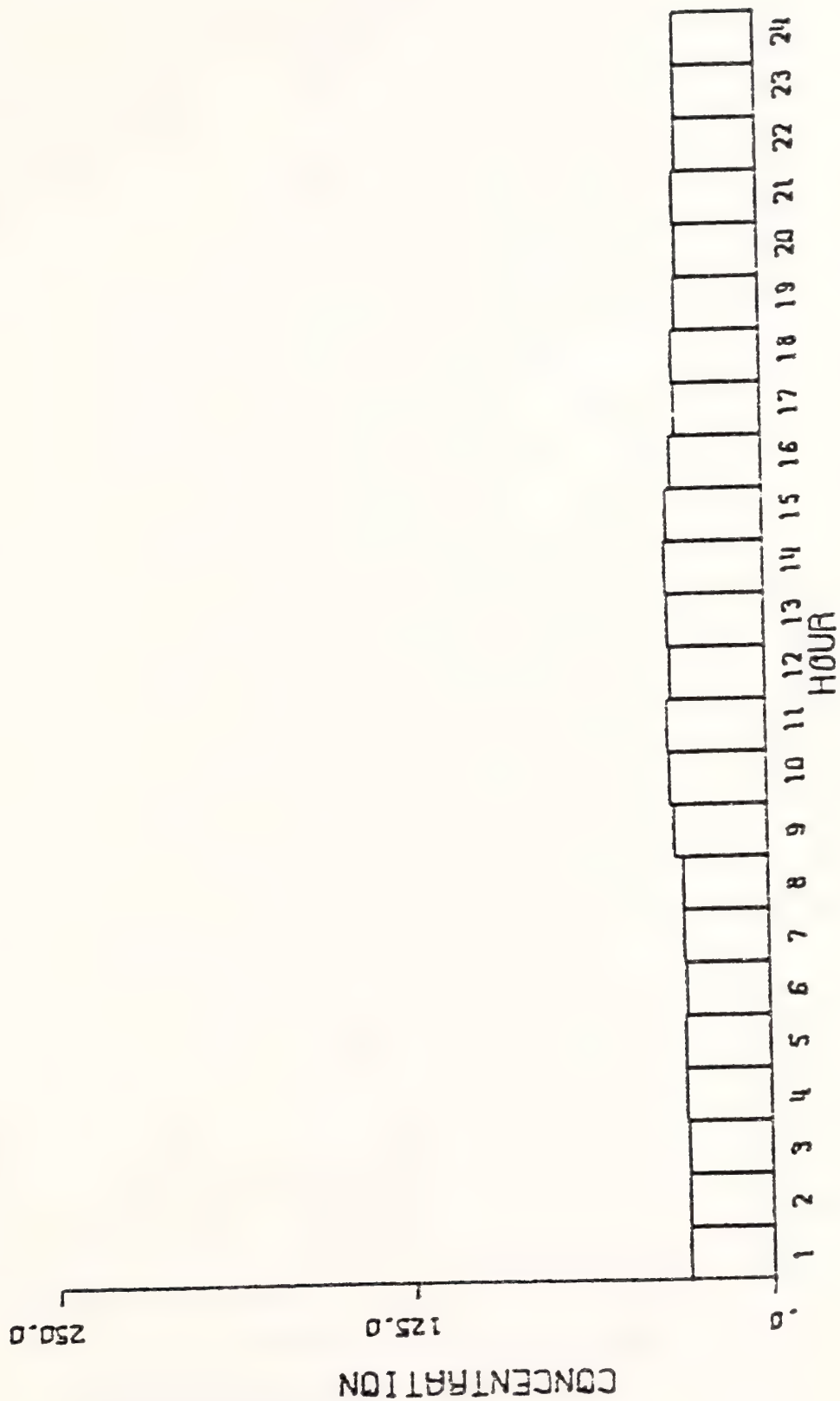




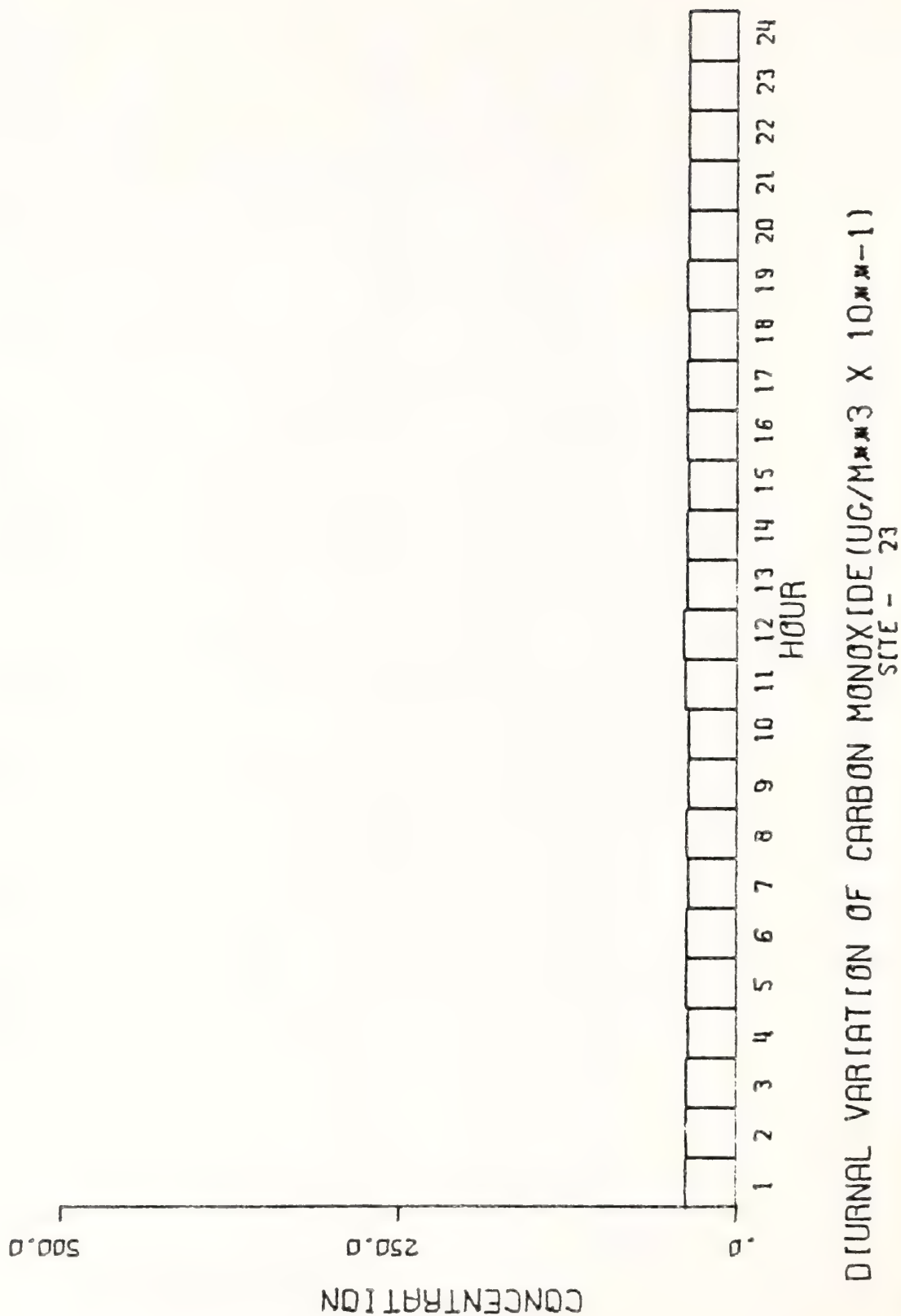
DIURNAL VARIATION OF TOTAL HYDROCARBONS (UG/MM<sup>3</sup> X 10<sup>3</sup> M-1)  
SITE - 23

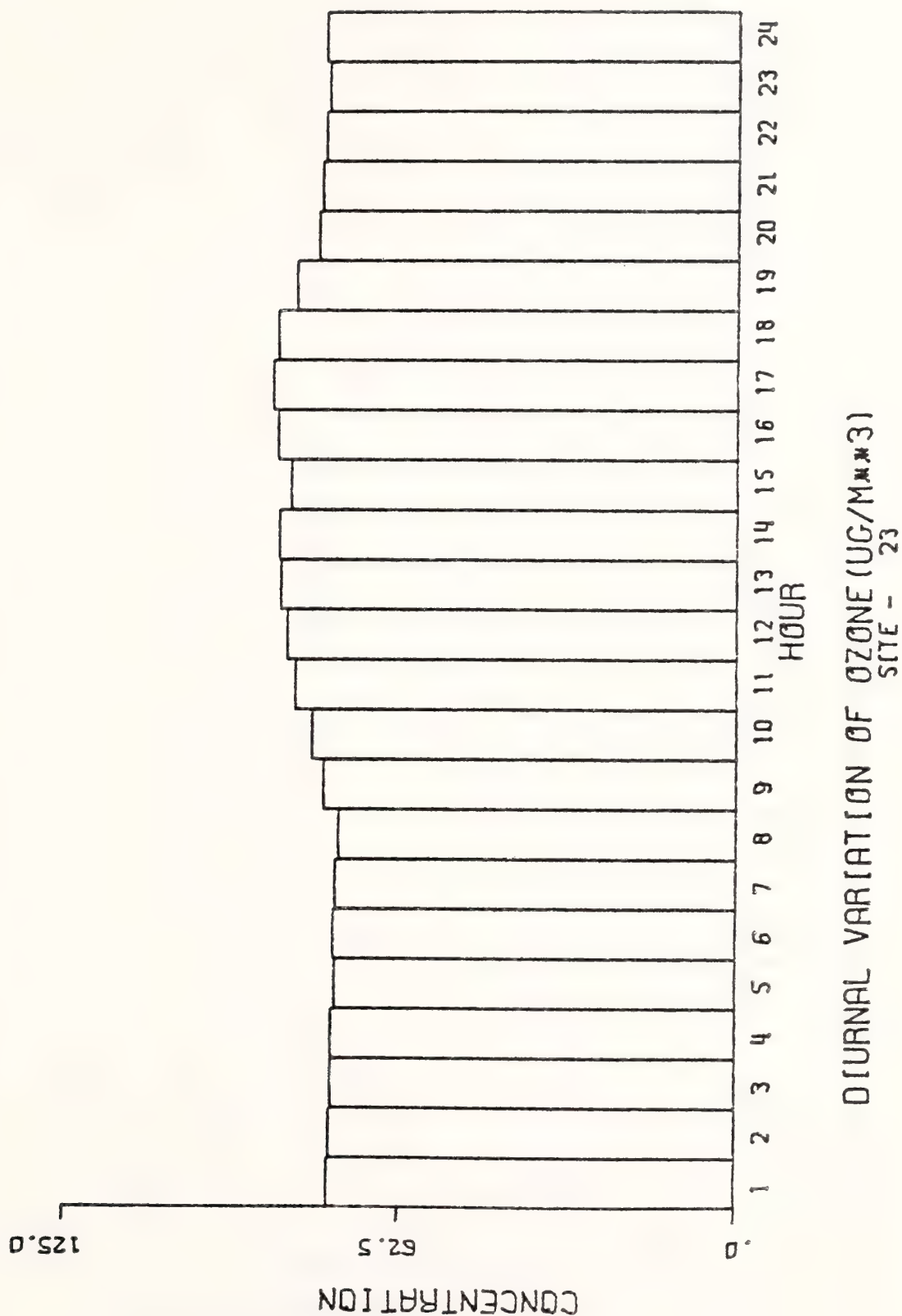






DIURNAL VARIATION OF NON-METHANE HYDROCARBONS (UG/M<sup>3</sup> X 10<sup>xx-1</sup>)  
SITE - 23

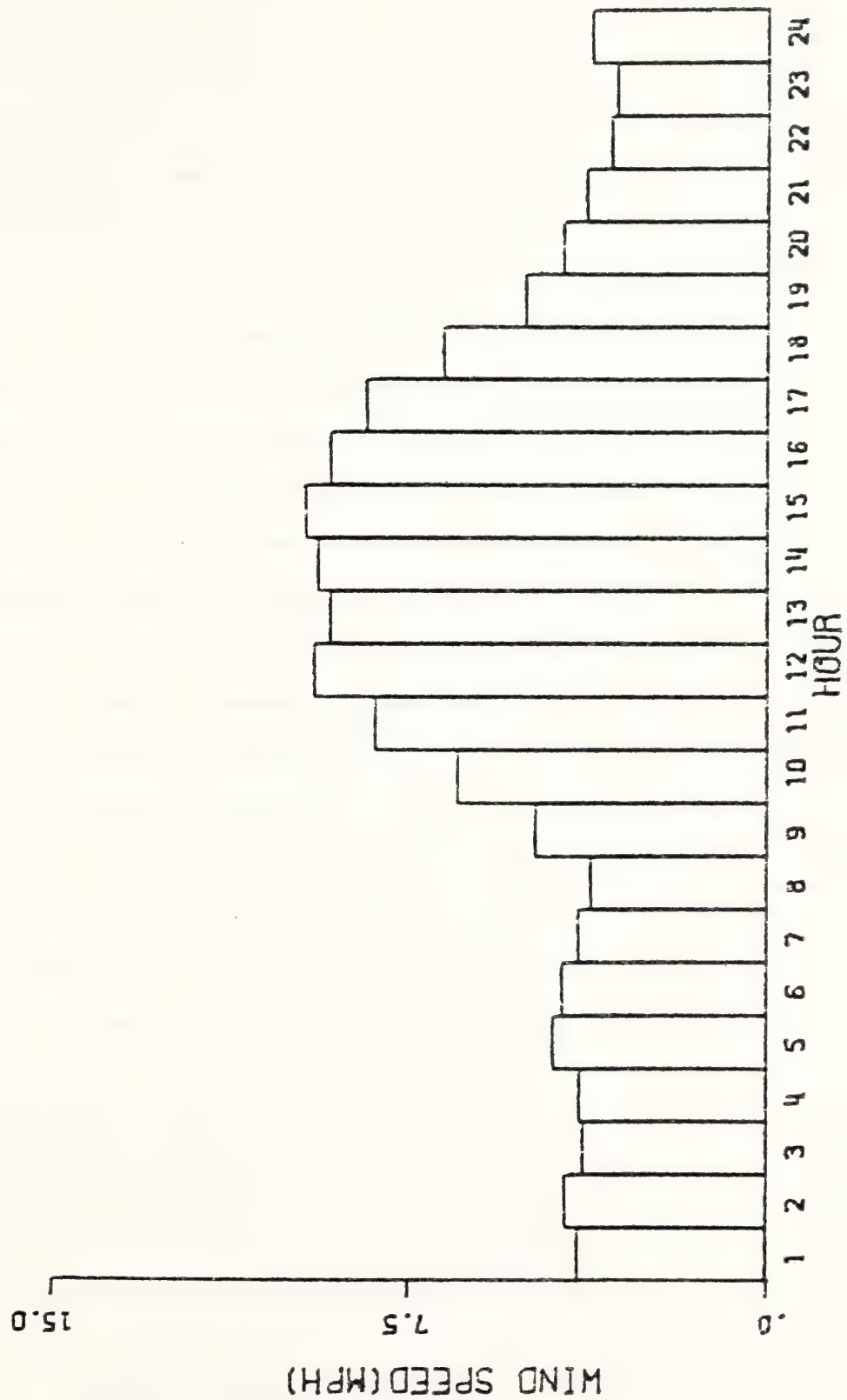




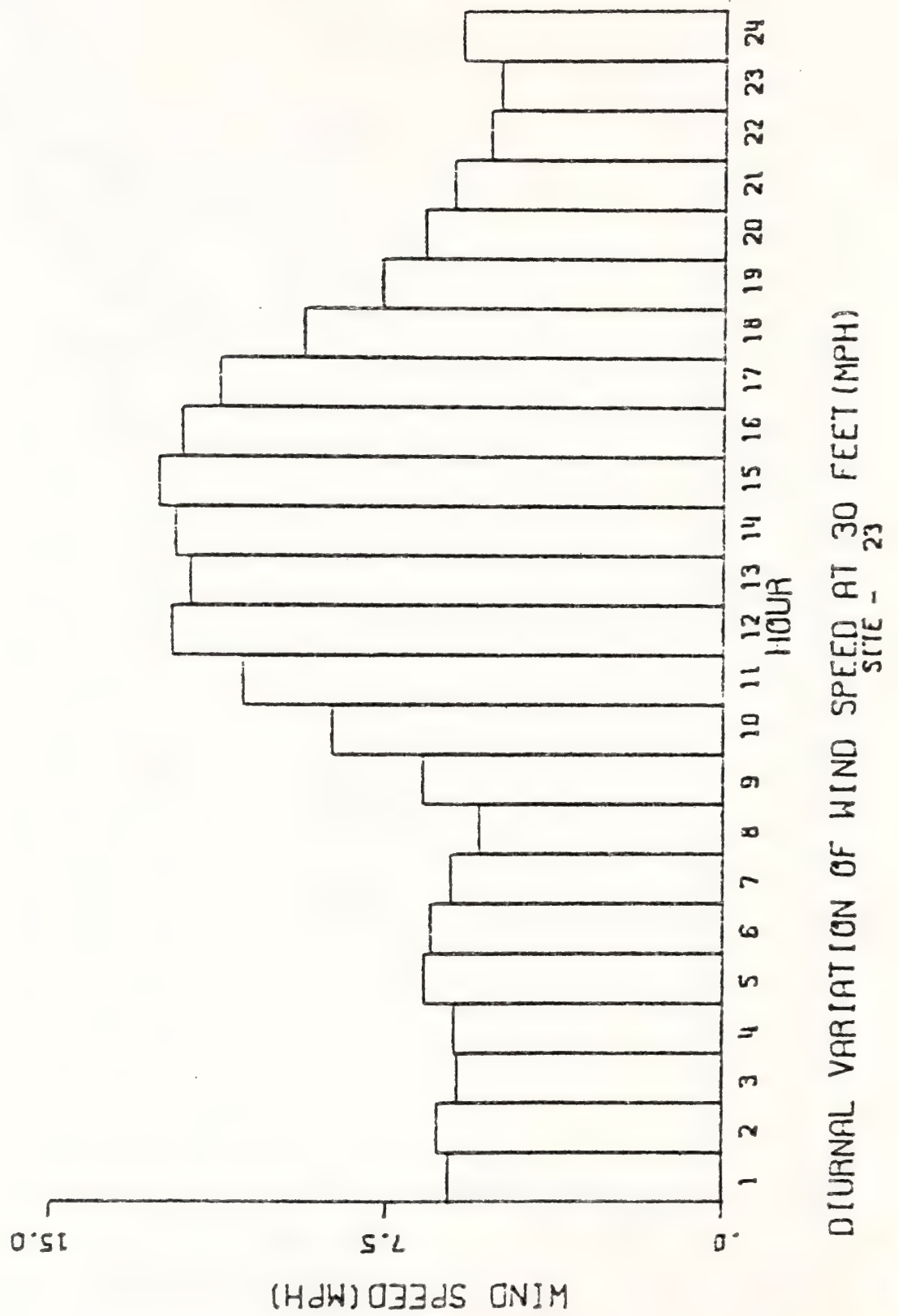


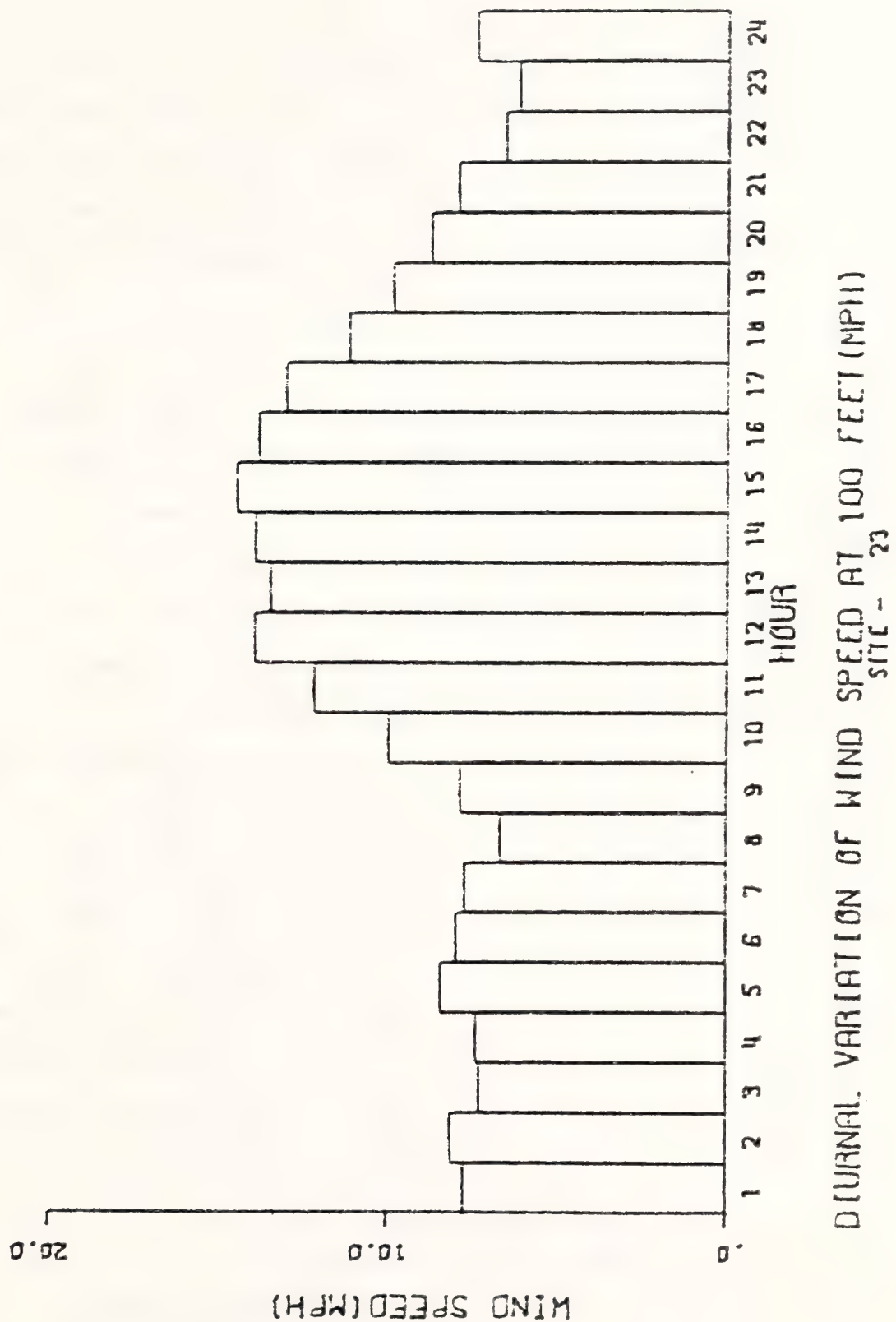
HOURLY TOTAL PRECIPITATION (HUNDRETHS OF INCHES)  
SITE - 23

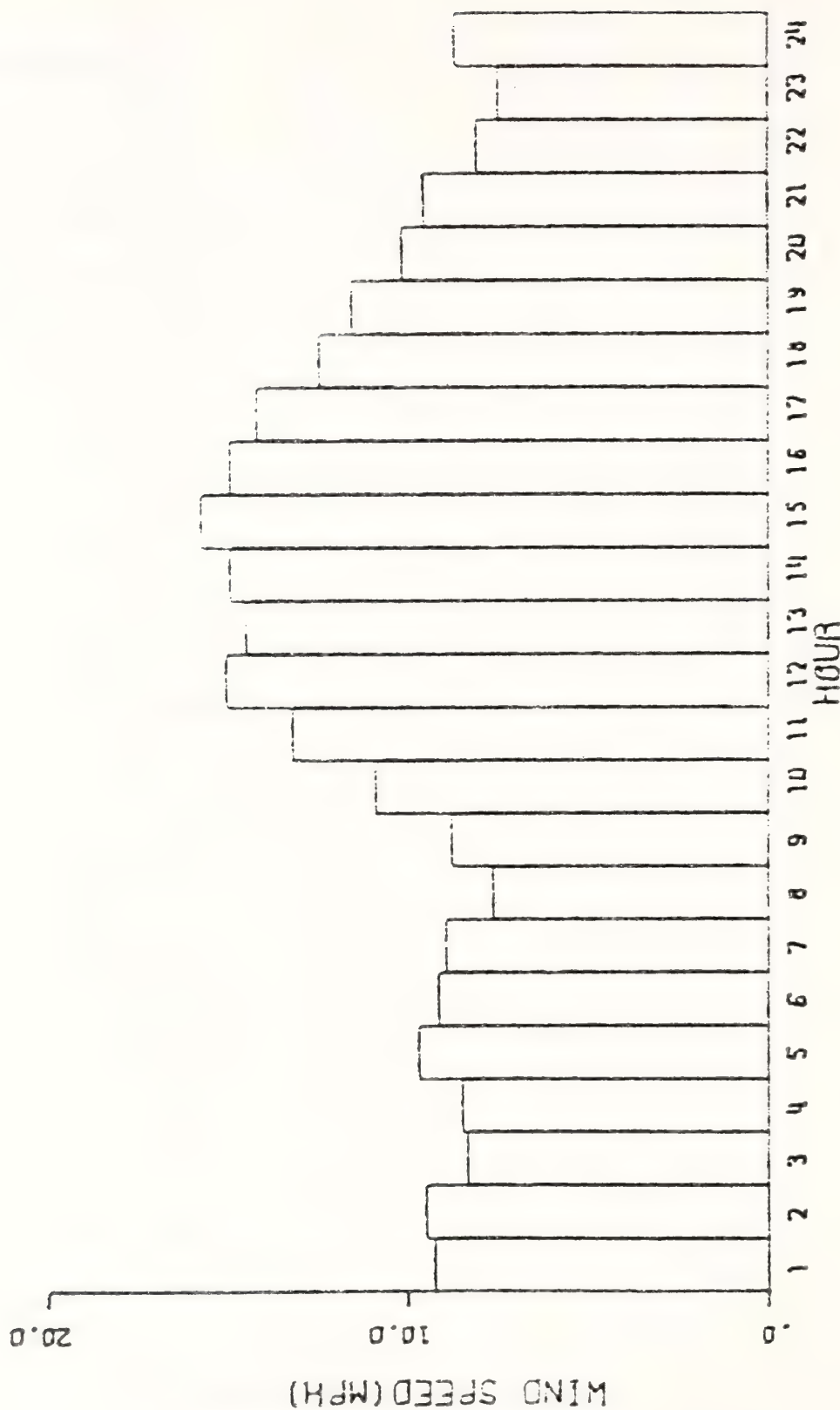




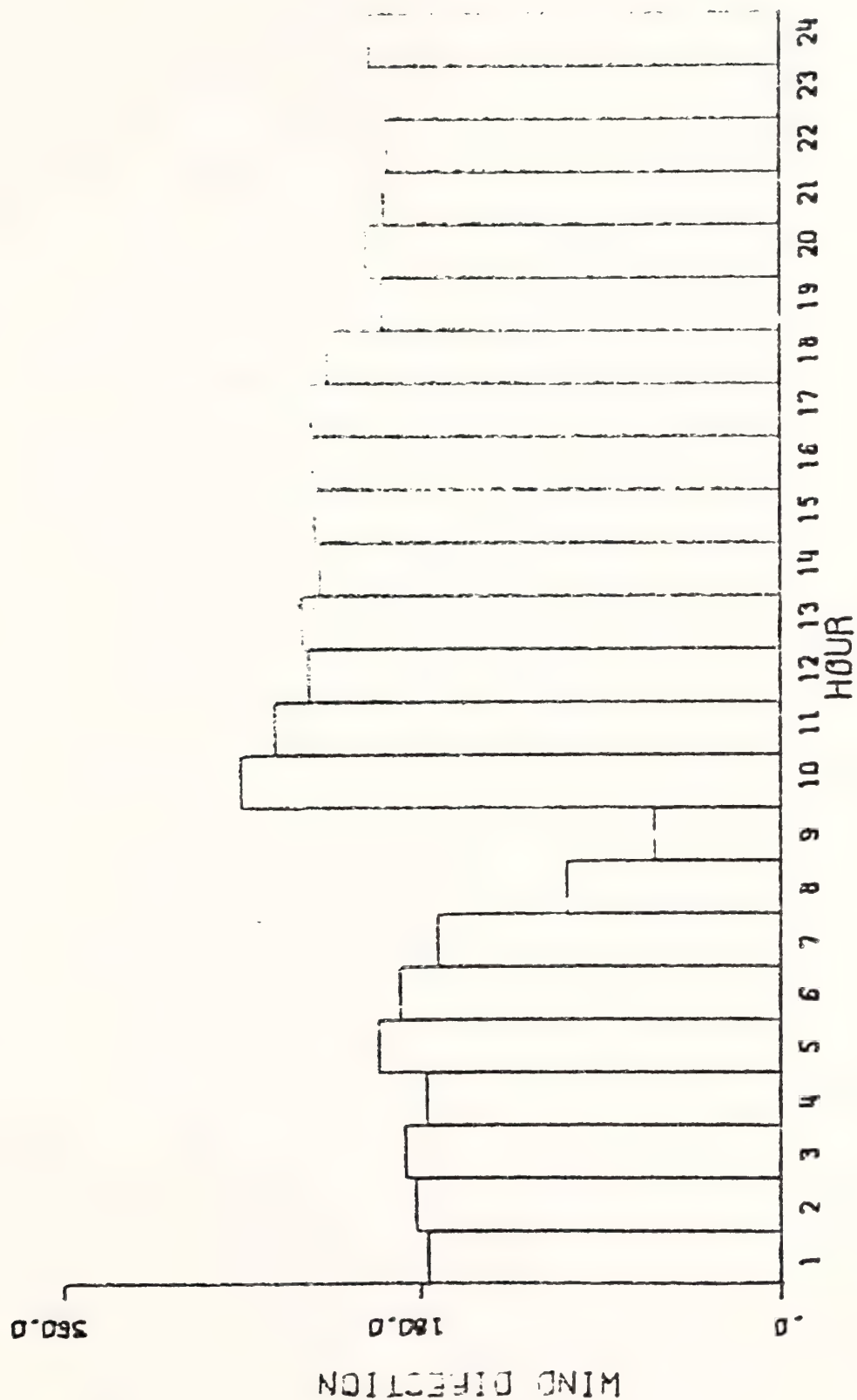
DIURNAL VARIATION OF WIND SPEED AT 8 FEET (MPH)  
SITE - 23





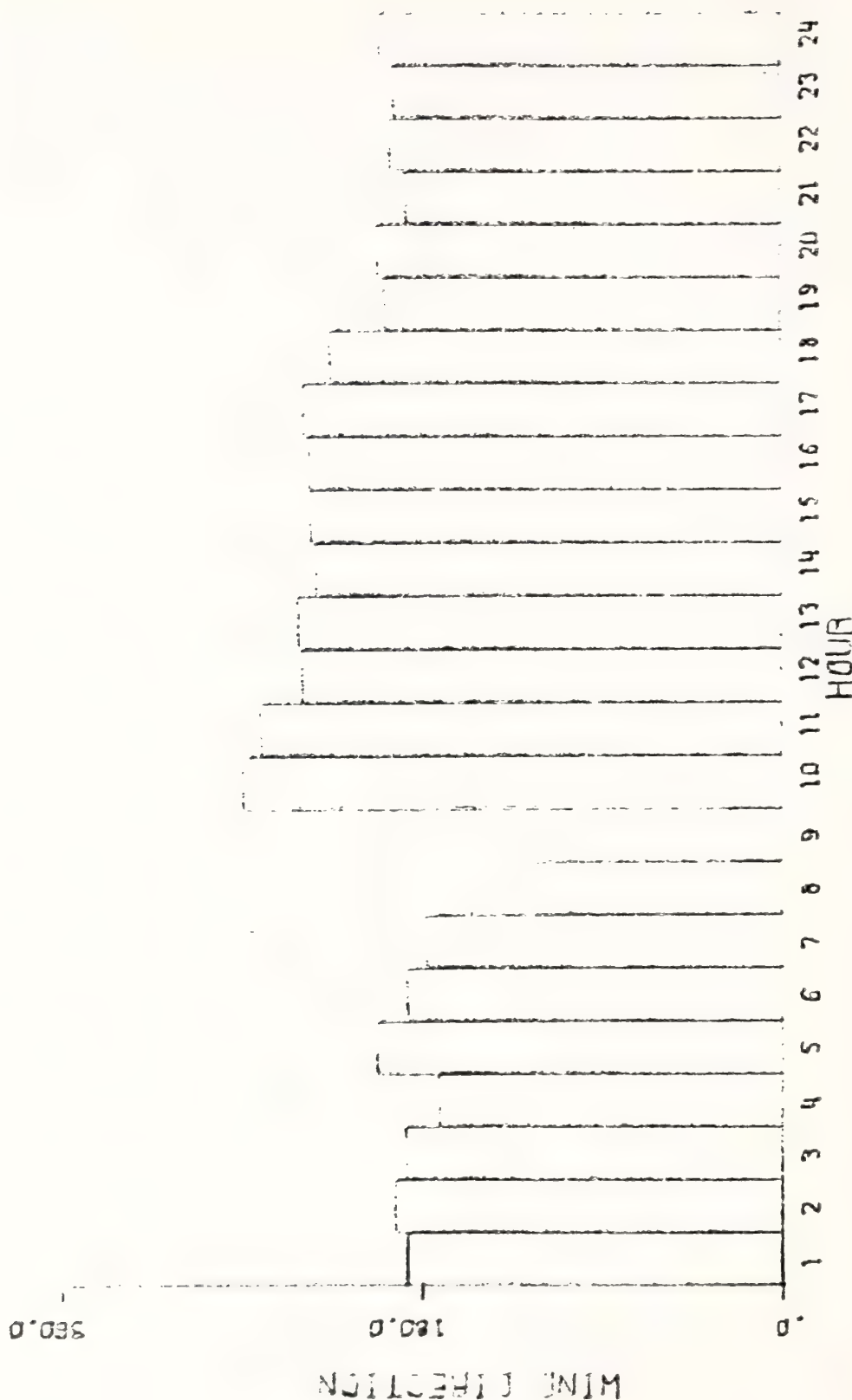


DIURNAL VARIATION OF WIND SPEED AT 200 FEET (MPH)  
SITE - 23

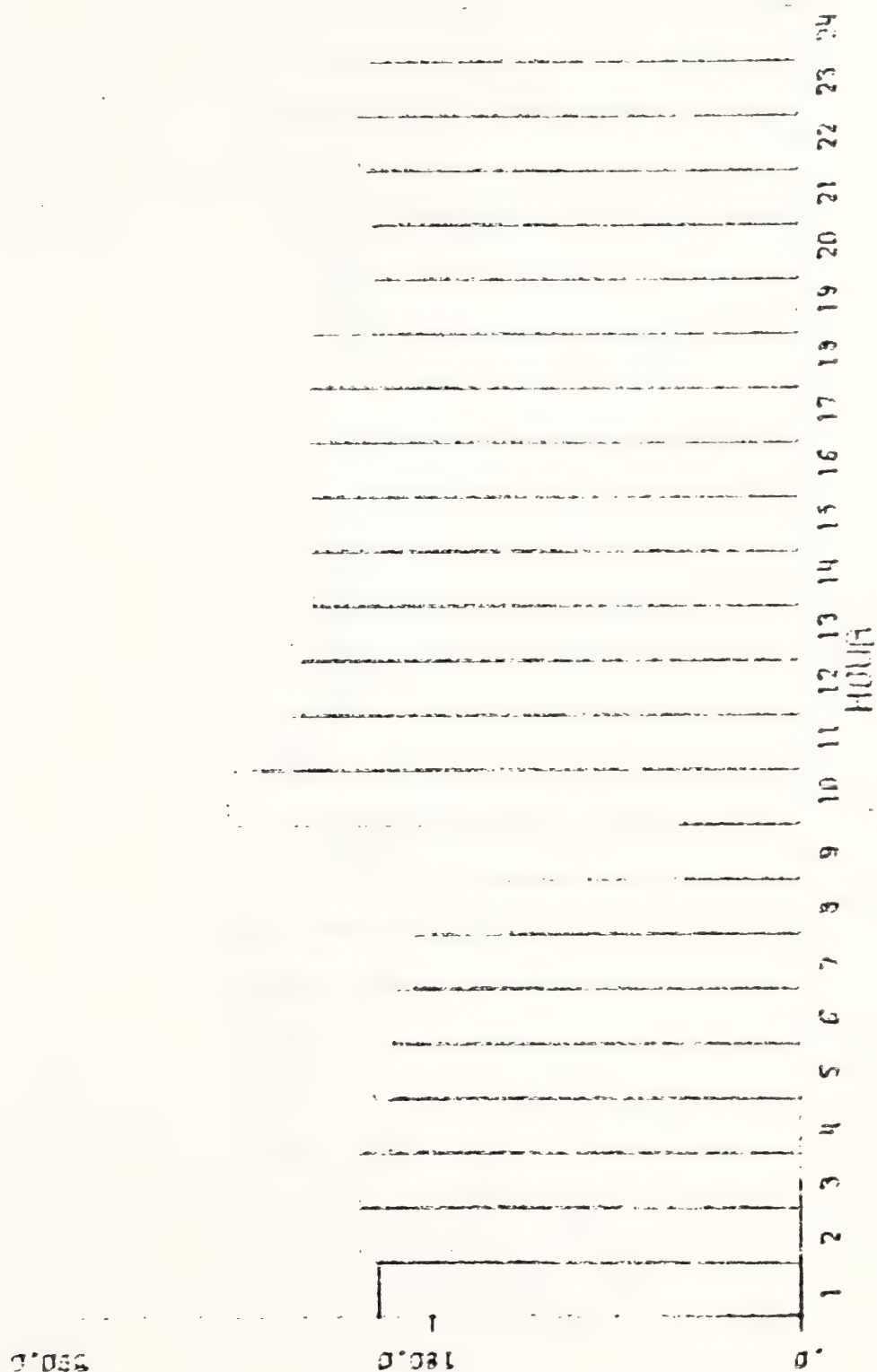


DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET  
SITE -- 23





DIRECTIONAL VARIATION OF WIND DIRECTION IN 30 FEET  
SITE - 23



DATE: 10/10/50  
 TIME: 10:00 AM  
 BY: J. L. R. - 27

01032

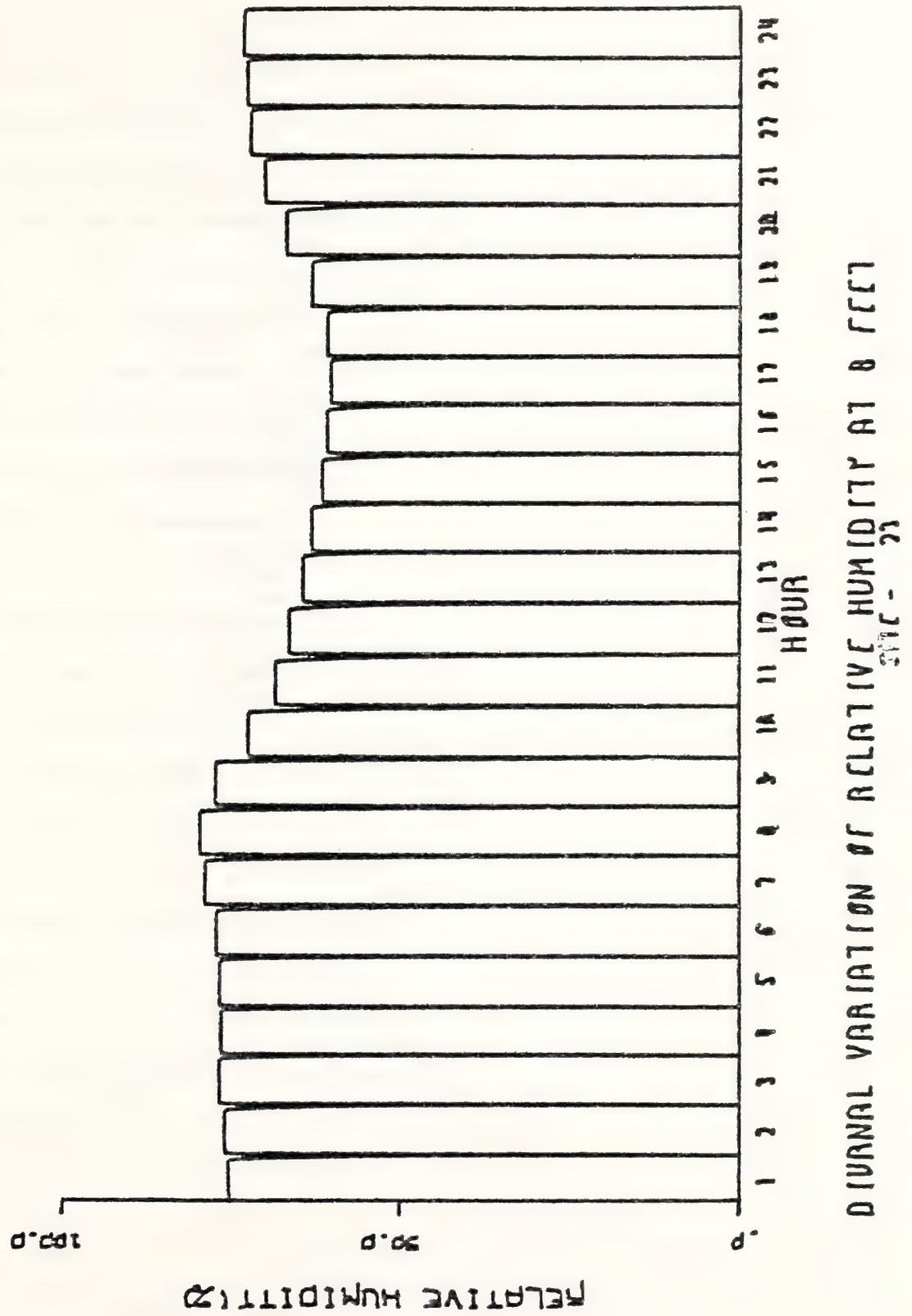
01081

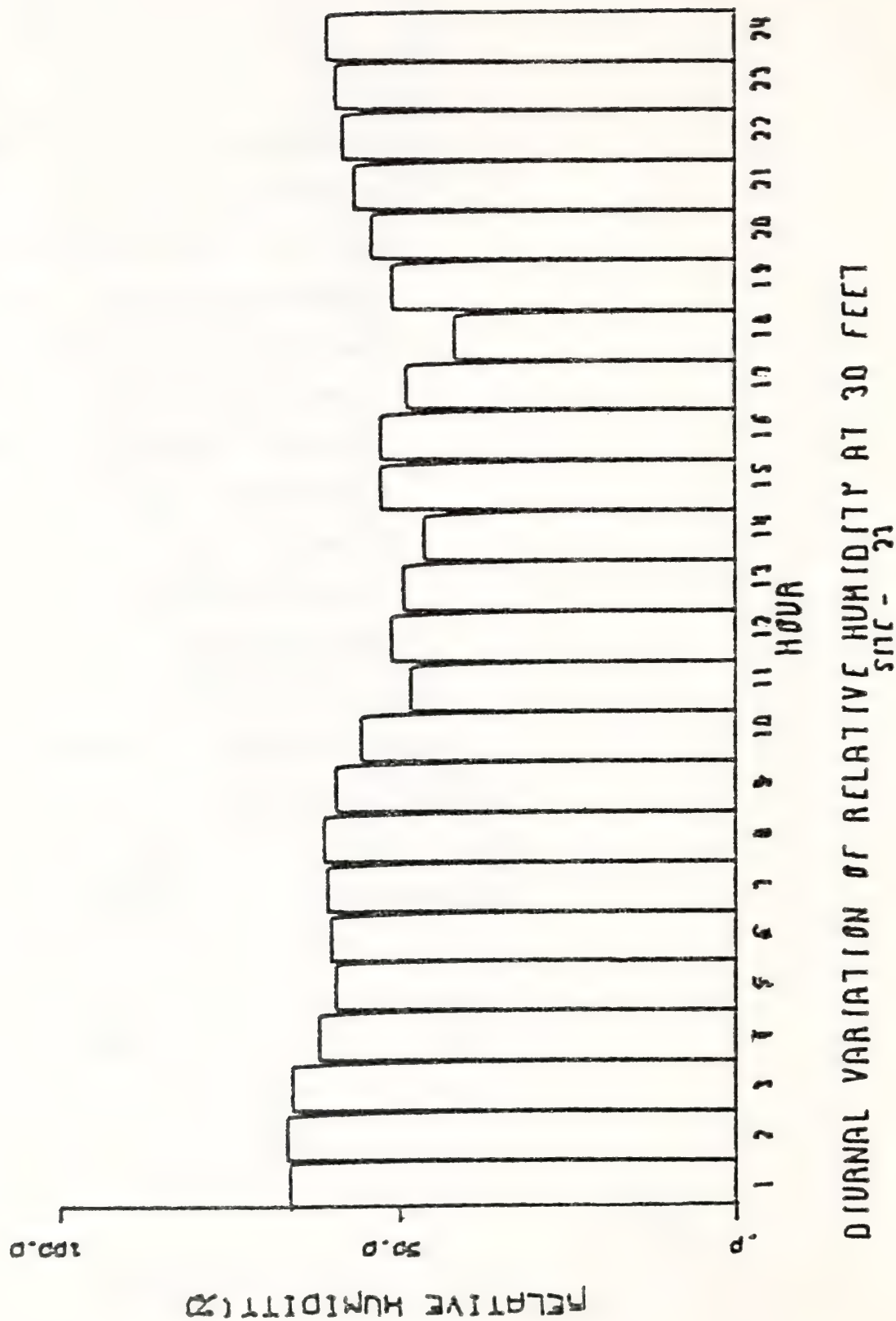
10122-973 UNIM



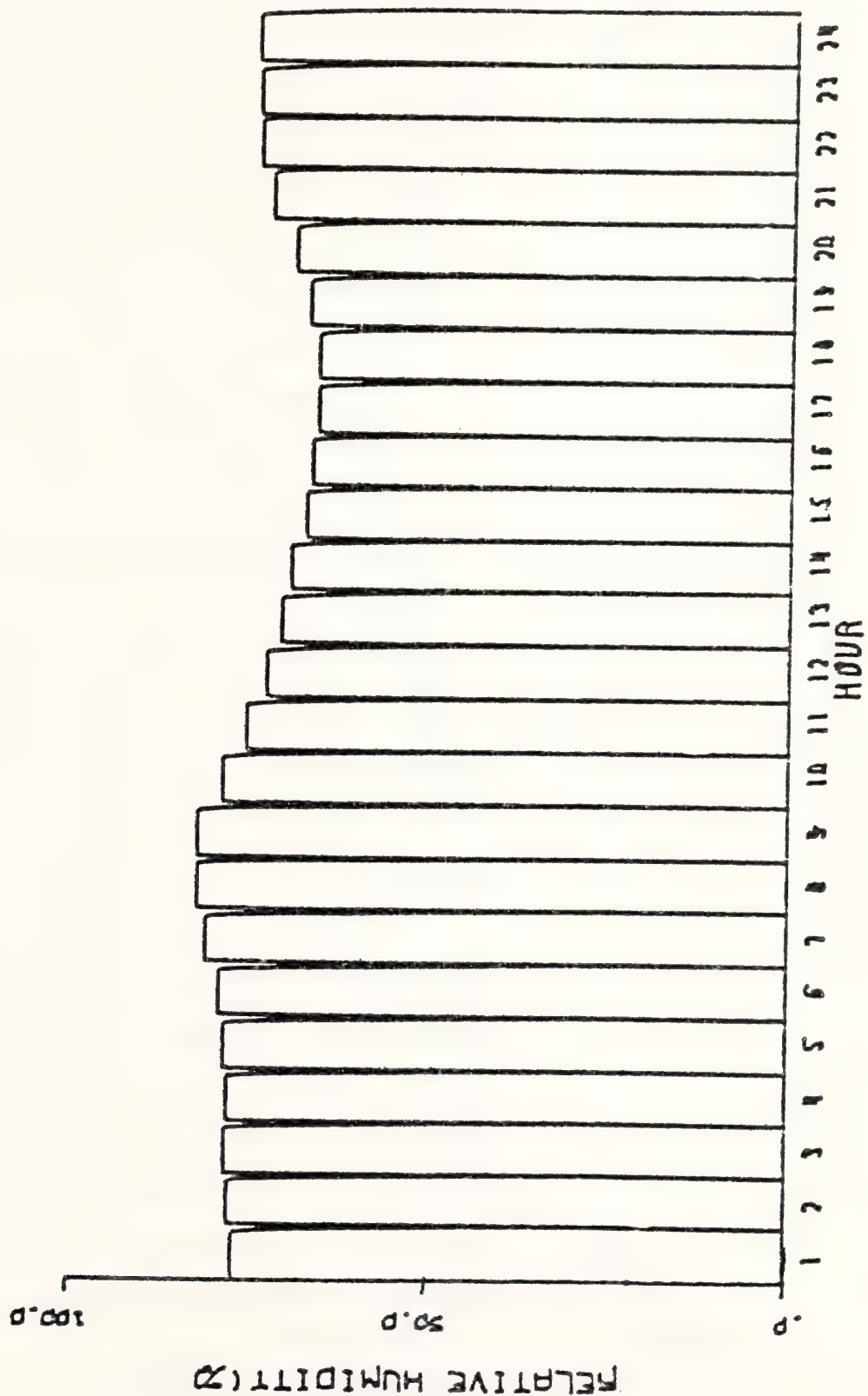
1000

ORIGINAL VARIATION OF MINIMUM DEVIATION IN 210-7777  
5076-23

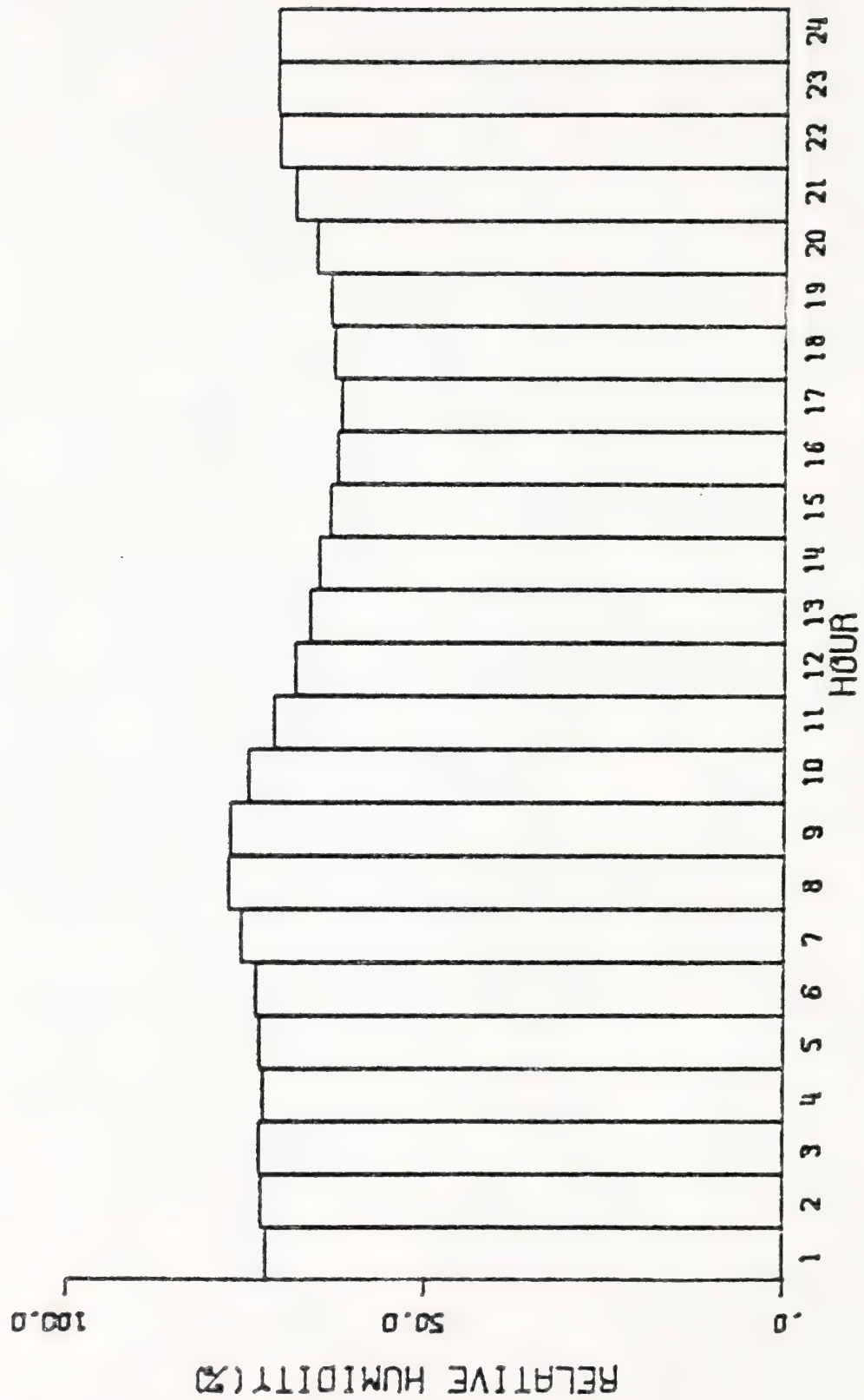




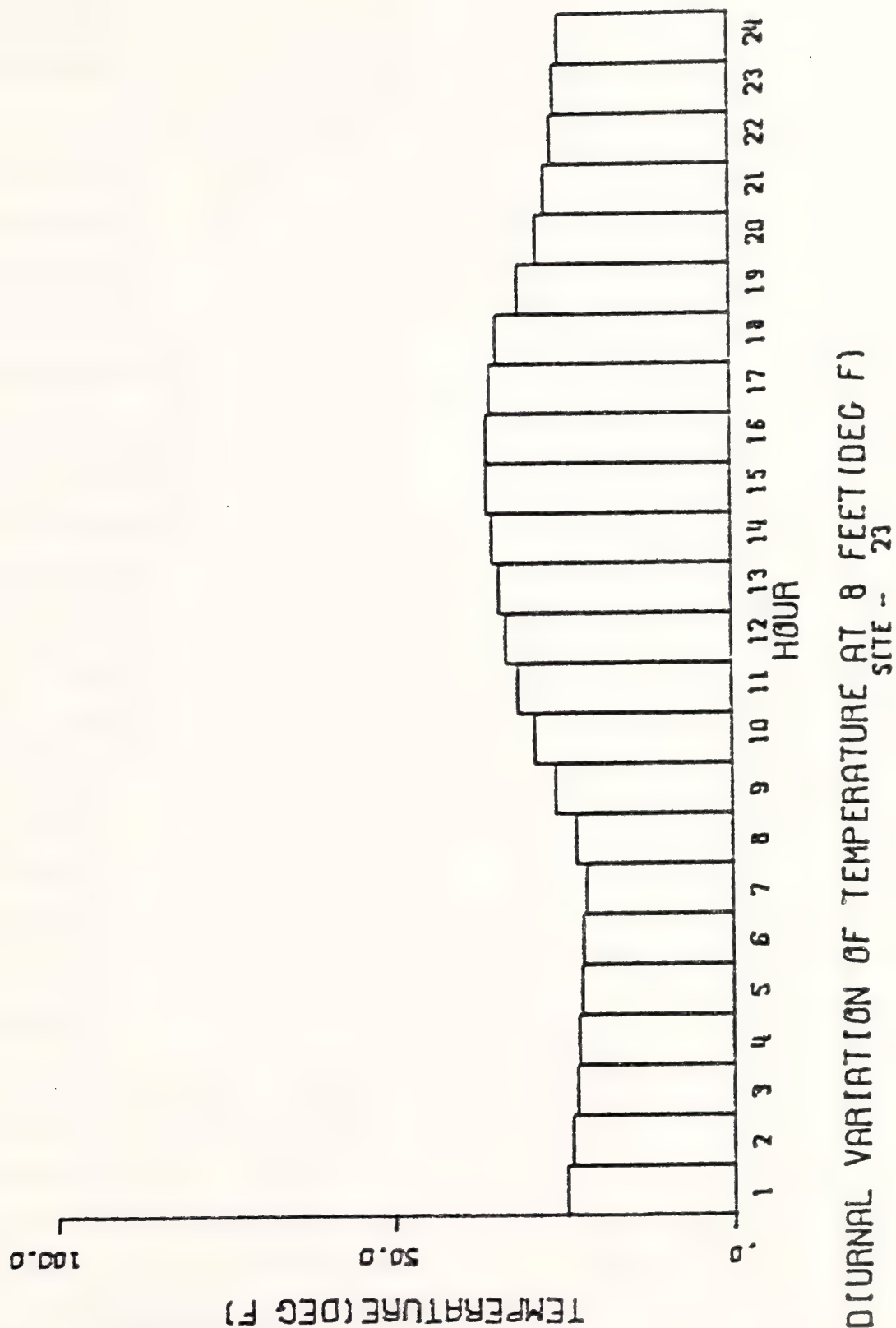


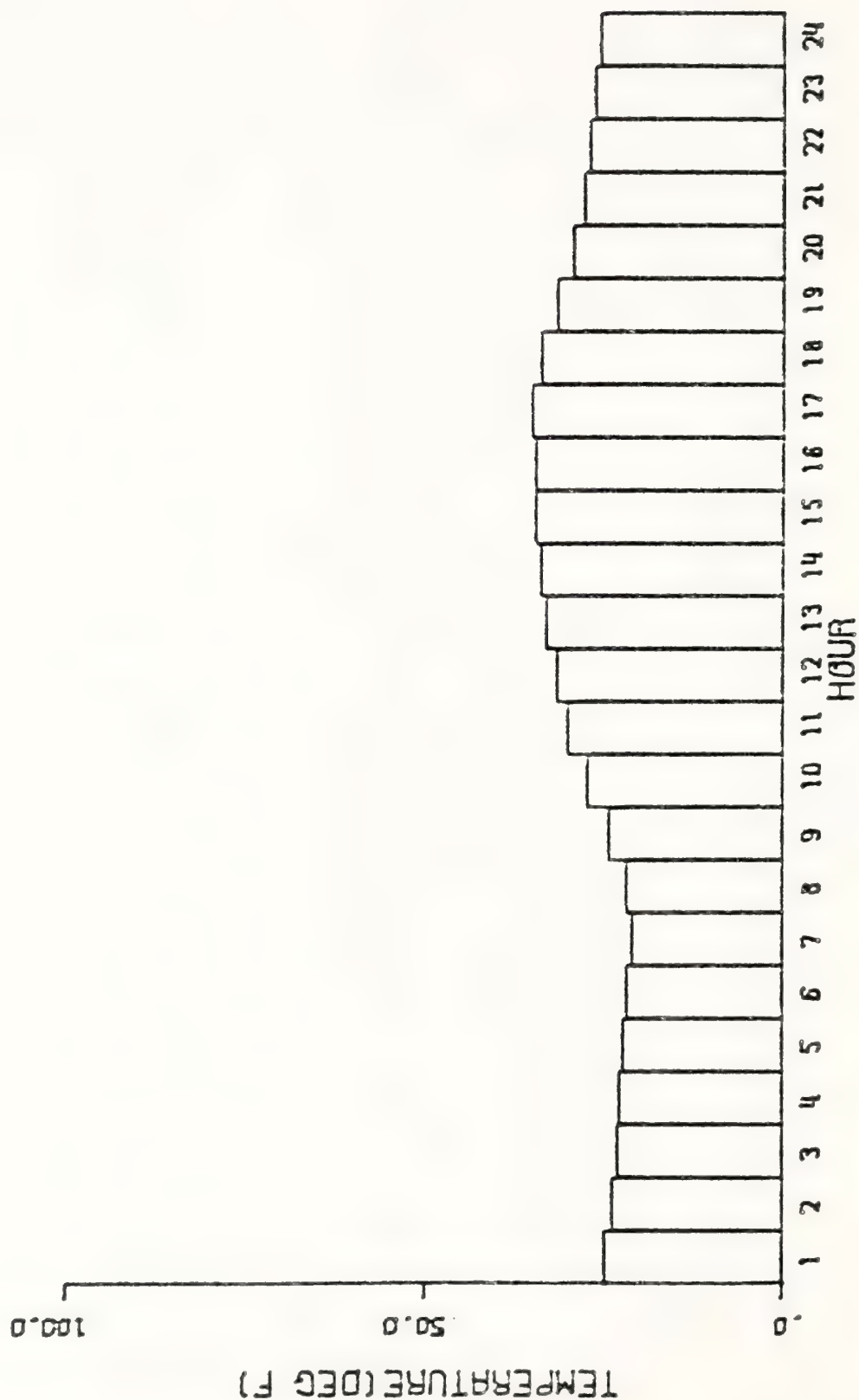


DIURNAL VARIATION OF RELATIVE HUMIDITY AT 100 FEET  
SITE - 23

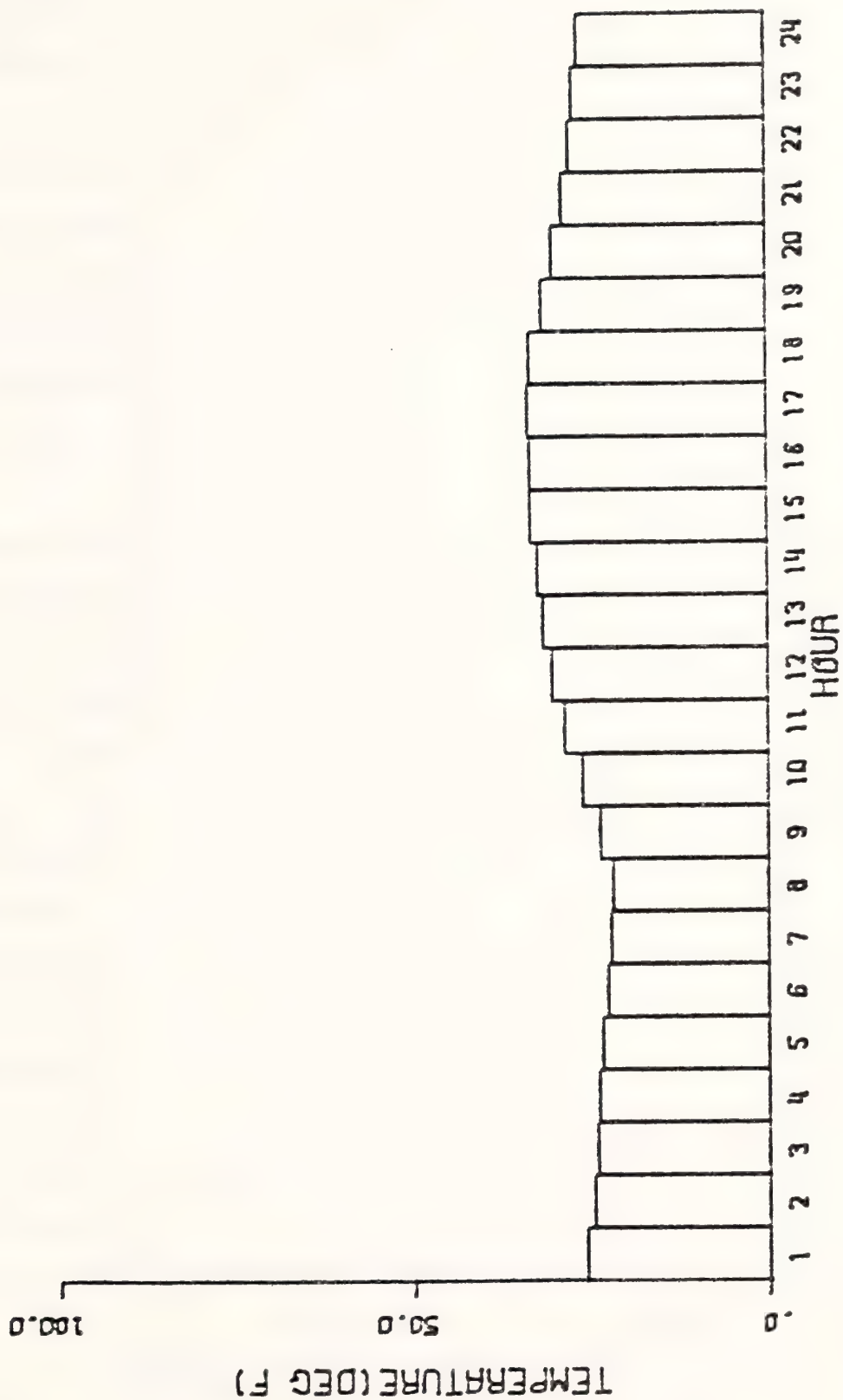


DIURNAL VARIATION OF RELATIVE HUMIDITY AT 200 FEET  
SITE - 23



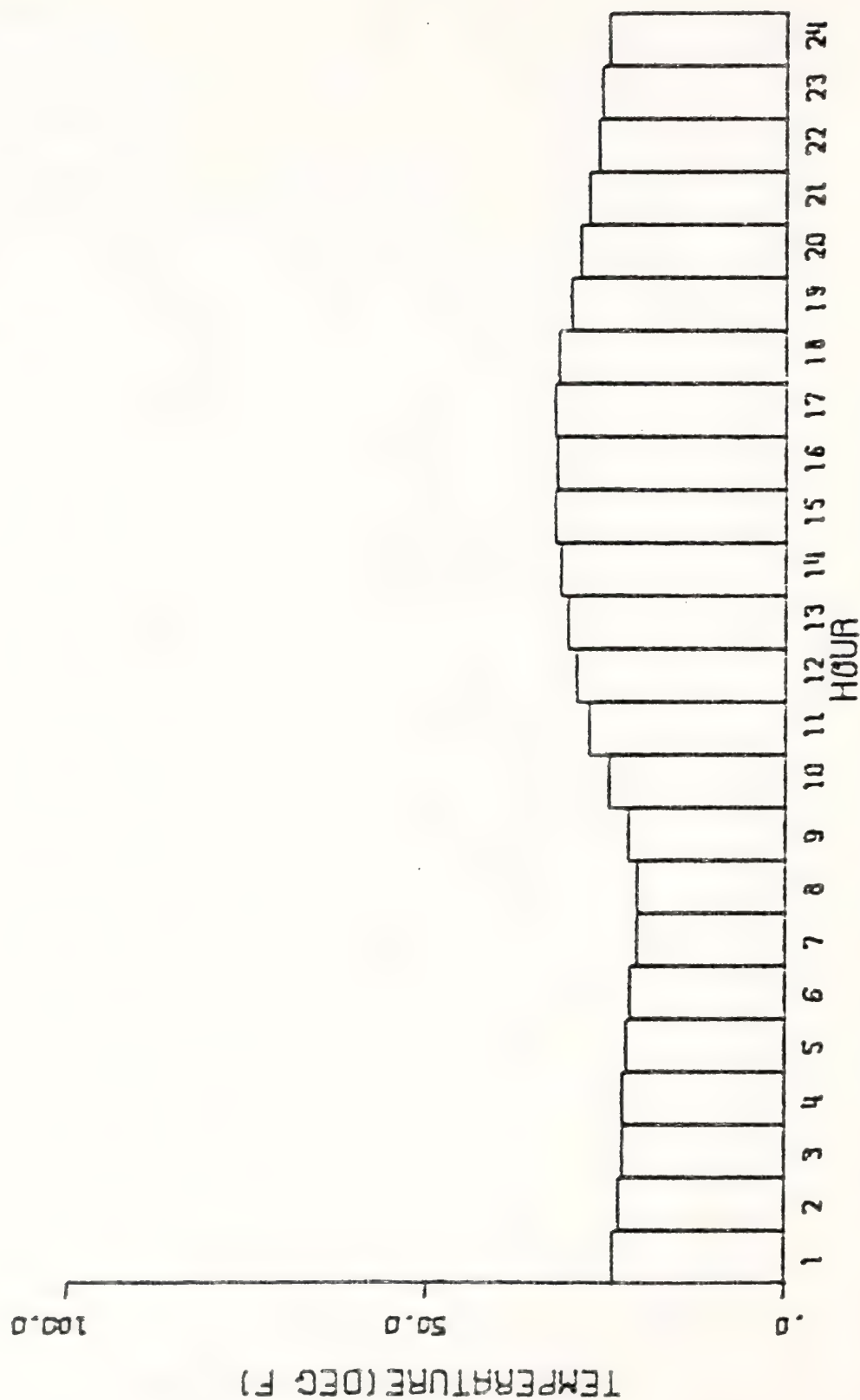


DIURNAL VARIATION OF TEMPERATURE AT 30 FEET (DEG F)  
SITE - 23

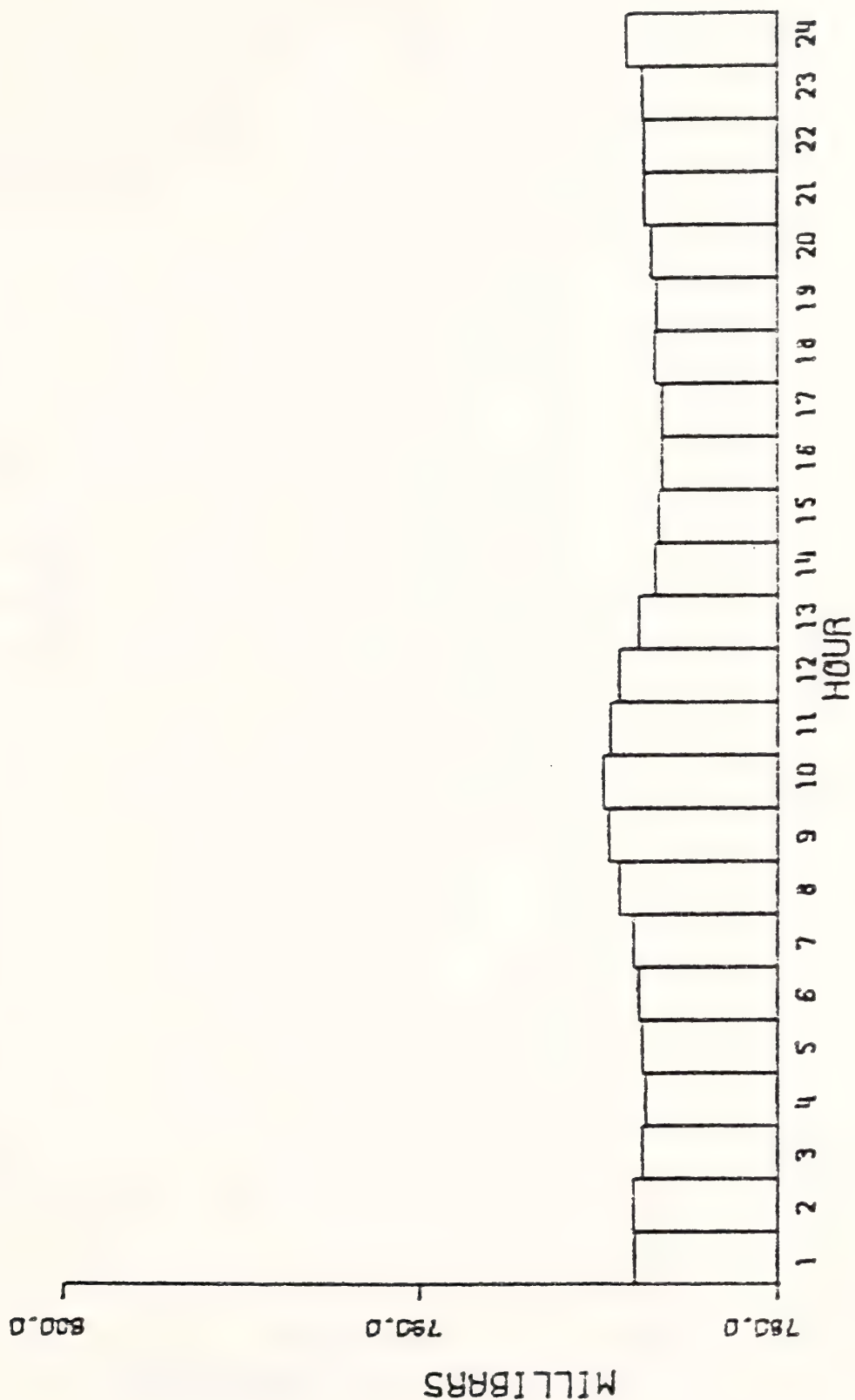


DIURNAL VARIATION OF TEMPERATURE AT 100 FEET (DEG F)  
SITE - 23

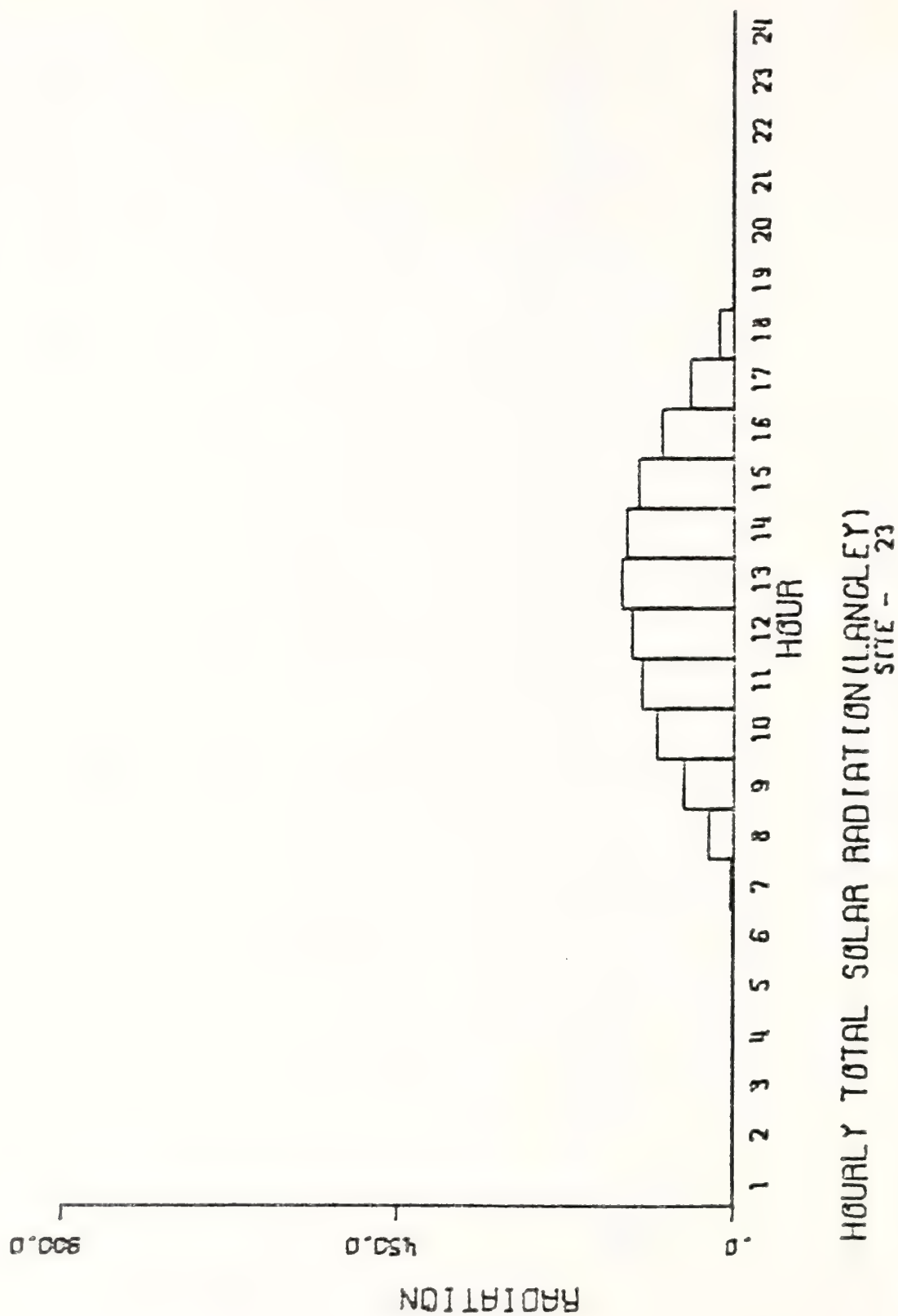


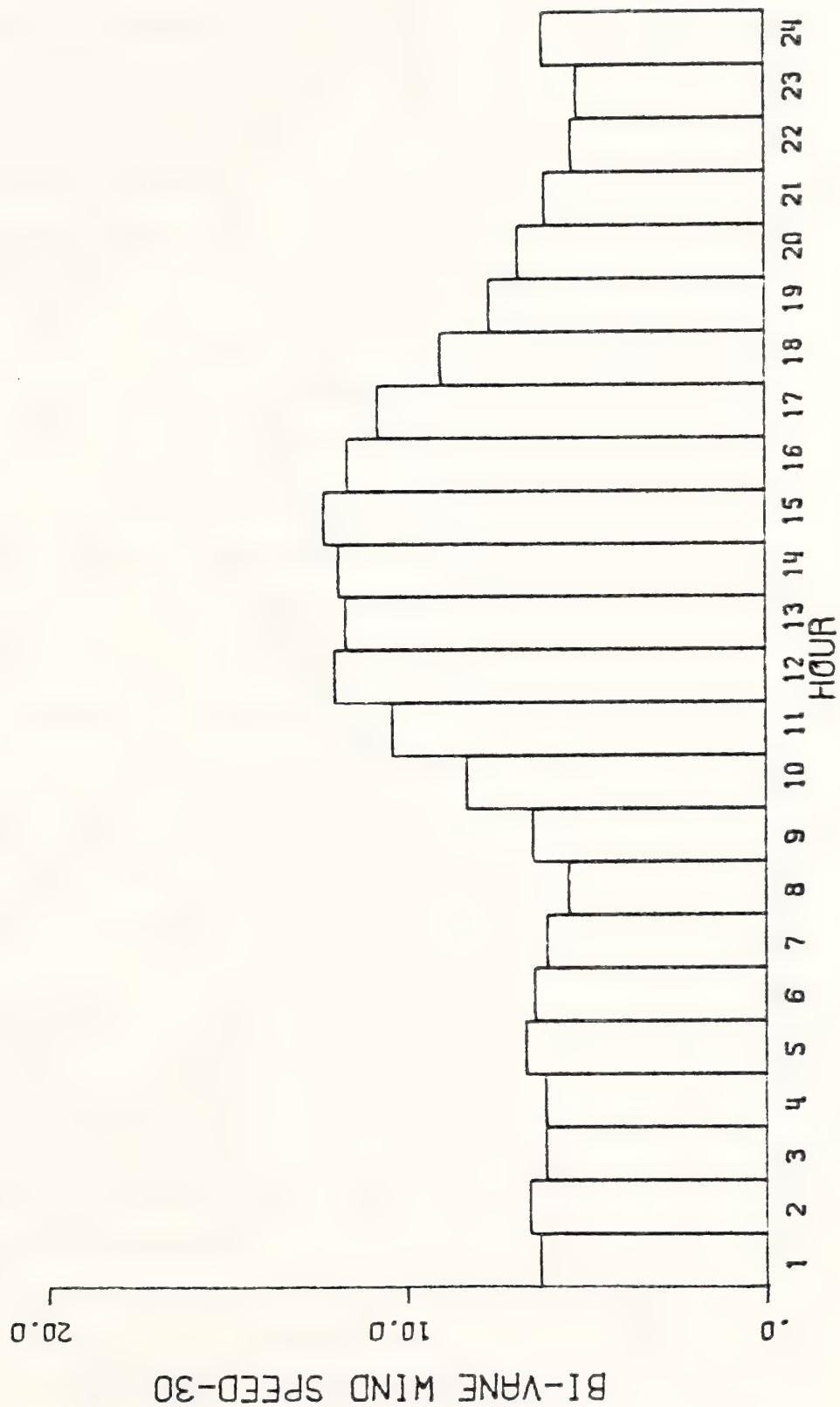


DIURNAL VARIATION OF TEMPERATURE AT 200 FEET (DEG F)  
SITE - 23

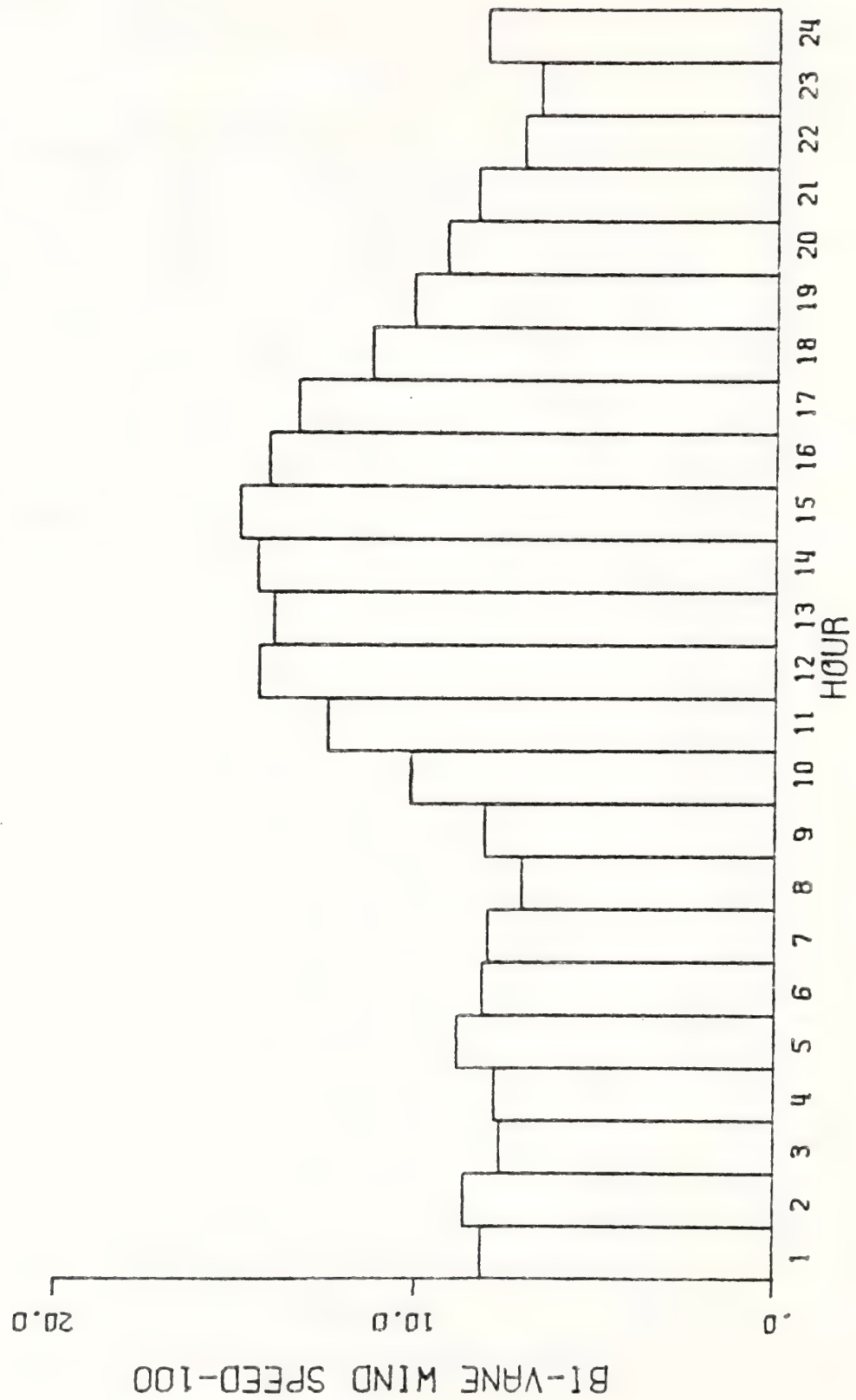


DIURNAL VARIATION OF BAROMETRIC PRESSURE  
SITE - 23



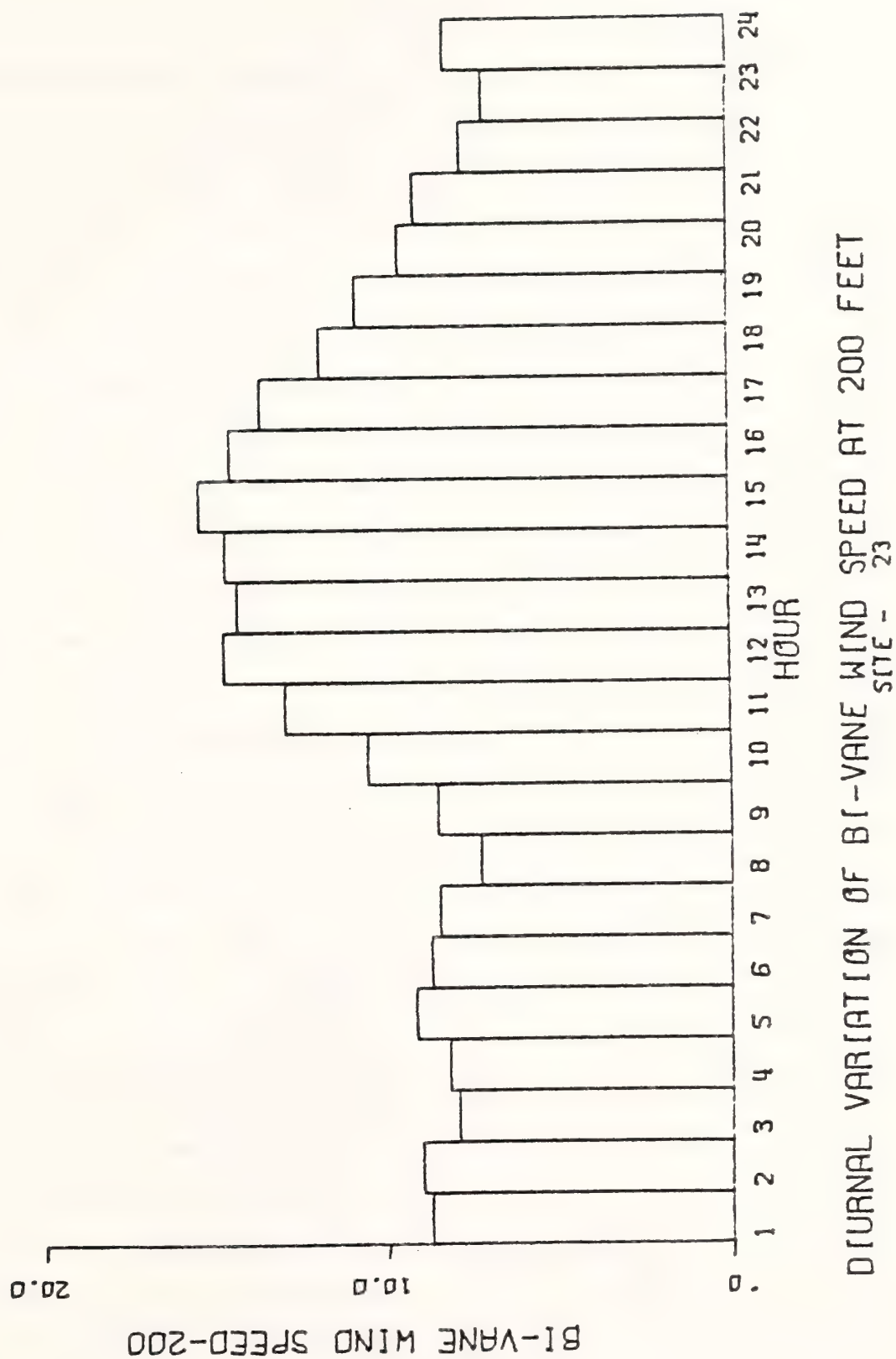


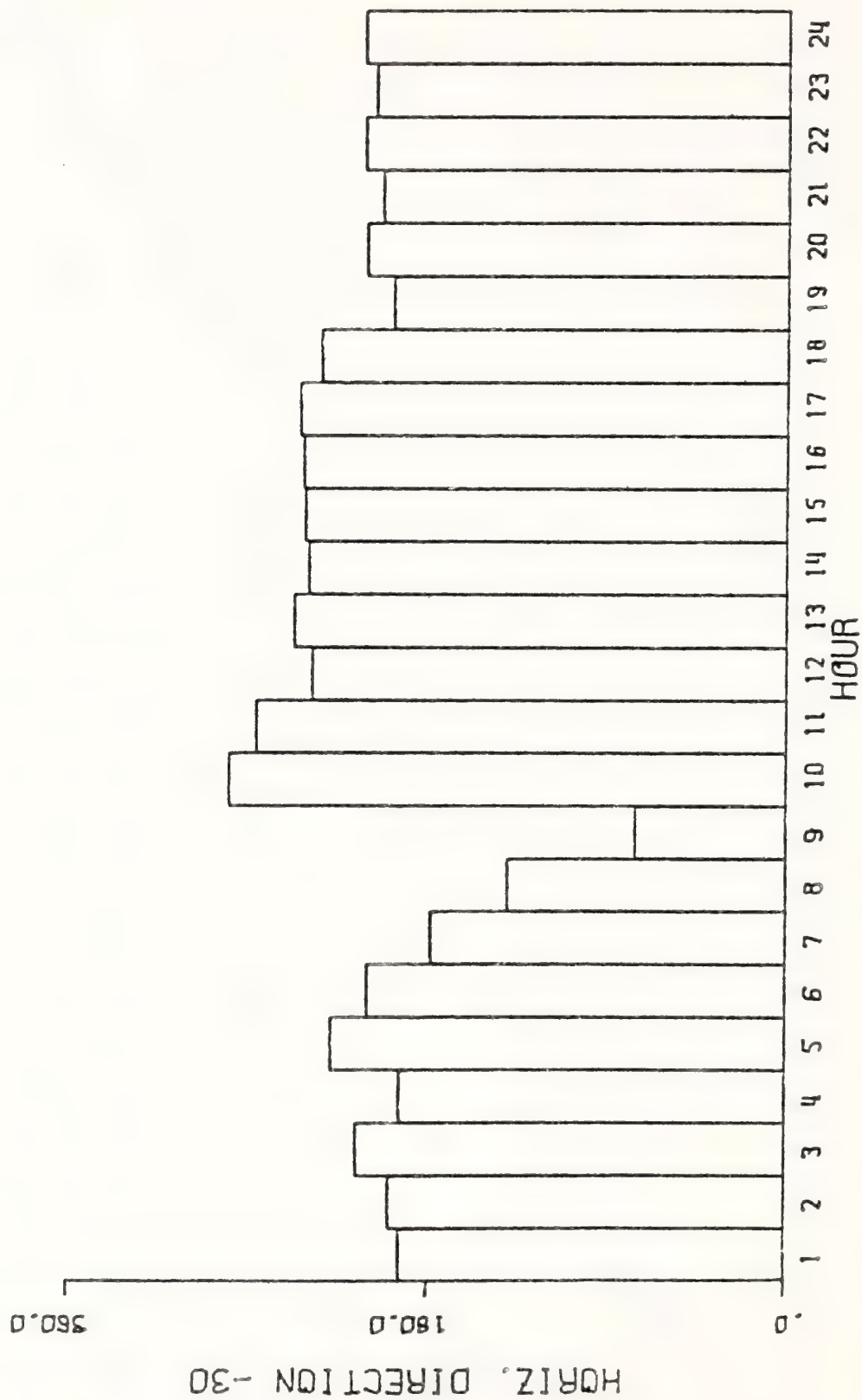
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 30 FEET  
SITE - 23



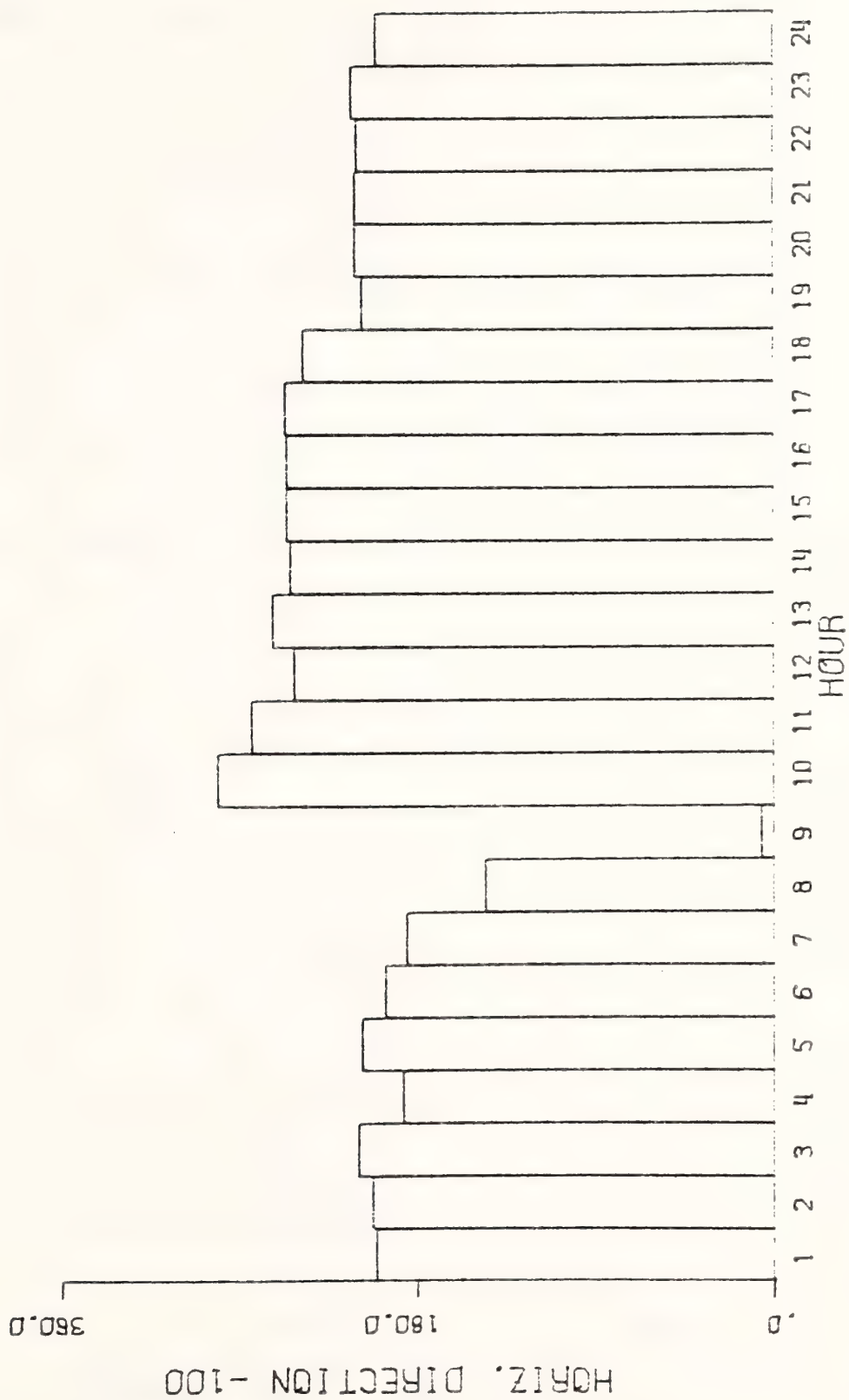
DIURNAL VARIATION OF BI-VANE WIND SPEED AT 100 FEET  
SITE - 23



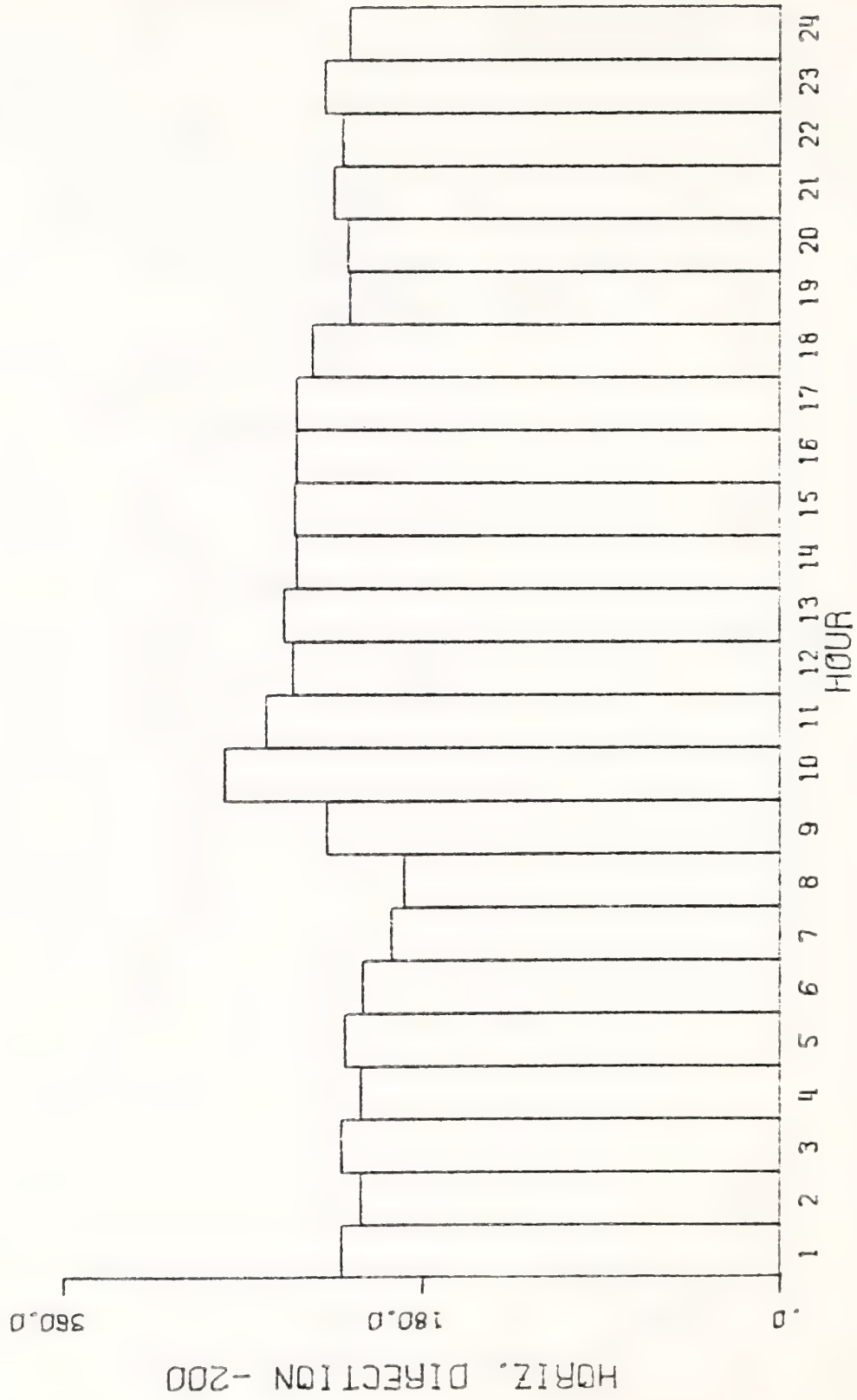




DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 30 FEET  
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 100 FEET  
SITE - 23



DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET  
SITE - 23

COMPARISON OF PROJECT METEOROLOGICAL USER SITE  
STABILITY CLASS DETERMINATION USING PYRAMOUNT FOR RECORDING  
PERIOD 5/ 1/76 TO 5/31/76

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 5/ 1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 2 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 3 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 4 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 5 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 6 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 7 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 8 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 9 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/10 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/11 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/12 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/13 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/14 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/15 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/16 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/17 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/18 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/19 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/20 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/21 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/22 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/23 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/24 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/25 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/26 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/27 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/28 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/29 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/30 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/31 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* 000 - ZERO - NO WIND FOR READING NOT STABILITY CLASS UNCERTAIN SINCE NIGHTTIME NET RADIATION INDEX IS REQUIRED



C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING PT/102 (LEVEL 1)  
PERIOD 3/1/77 TO 3/31/77

[illegible]

C-9 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING M1/D2 (LEVEL 1)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
A STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 3/ 1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 2 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 3 |   |   |   |   |   |   |   |   |   | 5  |    |    |    |    |    | 3  | 2  |    |    |    |    |    |    |    |
| 3/ 4 |   |   |   |   |   |   |   |   |   | W  |    |    |    |    |    | W  | W  |    |    |    |    |    |    |    |
| 3/ 5 |   |   |   |   |   |   |   |   |   | 2  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 6 |   |   |   |   |   |   |   |   |   | W  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 7 |   |   |   |   |   |   |   |   |   |    |    |    |    | 4  |    | 3  |    |    |    |    |    |    |    |    |
| 3/ 8 |   |   |   |   |   |   |   |   |   |    |    |    |    | W  |    | W  |    |    |    |    |    |    |    |    |
| 3/ 9 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/10 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/11 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/12 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/13 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/14 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/15 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/16 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

C-B SHALE OIL PROJECT METEOROLOGICAL DATA SITE  
STABILITY CLASS DETERMINATION USING D1/12 (LEVEL 1)  
PERIOD 3/1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
A STABILITY CLASS

|      | 1    | 2   |      |     |
|------|------|-----|------|-----|
|      | WIND |     | WIND |     |
|      | 4    | 5   | 4    | 5   |
|      | SSW  | SSW | SSW  | SSW |
| 3/17 | 4    | 5   | 4    | 5   |
| 3/18 | 4    | 5   | 4    | 5   |
| 3/19 | 4    | 5   | 4    | 5   |
| 3/20 | 4    | 5   | 4    | 5   |
| 3/21 | 4    | 5   | 4    | 5   |
| 3/22 | 4    | 5   | 4    | 5   |
| 3/23 | 4    | 5   | 4    | 5   |
| 3/24 | 4    | 5   | 4    | 5   |
| 3/25 | 4    | 5   | 4    | 5   |
| 3/26 | 4    | 5   | 4    | 5   |
| 3/27 | 4    | 5   | 4    | 5   |
| 3/28 | 4    | 5   | 4    | 5   |
| 3/29 | 4    | 5   | 4    | 5   |
| 3/30 | 4    | 5   | 4    | 5   |
| 3/31 | 4    | 5   | 4    | 5   |

C-W SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING D1/D2 (LEVEL 1)  
PERIOD: 3/ 1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
BY STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|
| 3/ 1 |   |   |   |   |   |   |   |   | 9   |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |
| 3/ 2 |   |   |   |   |   |   |   |   | ESE | 5   | 7   | 8   | 8   | 10  | 10  |     |     |    |    |    |    |    |    |    |
| 3/ 3 |   |   |   |   |   |   |   |   | 2   | WNW | WNW | WNW | NW  | WNW | NW  |     |     |    |    |    |    |    |    |    |
| 3/ 4 |   |   |   |   |   |   |   |   | NW  |     | 5   | 8   | 6   | 6   |     |     |     |    |    |    |    |    |    |    |
| 3/ 5 |   |   |   |   |   |   |   |   |     | NW  | NW  | NW  | NW  | NW  |     |     |     |    |    |    |    |    |    |    |
| 3/ 6 |   |   |   |   |   |   |   |   |     | 8   | 9   | 10  |     |     |     |     |     |    |    |    |    |    |    |    |
| 3/ 7 |   |   |   |   |   |   |   |   |     | WNW | WNW | N   |     |     |     |     |     |    |    |    |    |    |    |    |
| 3/ 8 |   |   |   |   |   |   |   |   |     | 5   | 5   | 5   |     |     |     |     |     |    |    |    |    |    |    |    |
| 3/ 9 |   |   |   |   |   |   |   |   |     | NW  | NW  | NW  |     |     |     |     |     |    |    |    |    |    |    |    |
| 3/10 |   |   |   |   |   |   |   |   |     | 5   | 7   | 6   | 7   | 7   | 7   | 6   | 7   |    |    |    |    |    |    |    |
| 3/11 |   |   |   |   |   |   |   |   |     | 5   | SSW | SSW | SSW | SSW | SSW | SSW | SSW |    |    |    |    |    |    |    |
| 3/12 |   |   |   |   |   |   |   |   |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |
| 3/13 |   |   |   |   |   |   |   |   |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |
| 3/14 |   |   |   |   |   |   |   |   |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |
| 3/15 |   |   |   |   |   |   |   |   |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |
| 3/16 |   |   |   |   |   |   |   |   |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |

## PROPERTY AND DEFLECTION STABILITY CLASS

[illegible]



U-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING D1/92 (LEVEL 1)  
PERIOD 3/ 1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8   | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16  | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|-----|---|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|
| 3/ 1 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |
| 3/ 2 |   |   |   |   |   |   |   |     | 2 |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |
| 3/ 3 |   |   |   |   |   |   |   | NNW |   |    |    |    |    |    |    | 7   |    |    |    |    |    |    |    |    |
| 3/ 4 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | NNW |    |    |    |    |    |    |    |    |
| 3/ 5 |   |   |   |   |   |   |   |     | 0 |    |    |    |    |    |    | N   | 11 | 11 |    |    |    |    |    |    |
| 3/ 6 |   |   |   |   |   |   |   | WSW |   |    |    |    |    |    |    | N   | NW |    |    |    |    |    |    |    |
| 3/ 7 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | 2   |    |    |    |    |    |    |    |    |
| 3/ 8 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    | NNW |    |    |    |    |    |    |    |    |
| 3/ 9 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |
| 3/10 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |
| 3/11 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |
| 3/12 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |
| 3/13 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |
| 3/14 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |
| 3/15 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |
| 3/16 |   |   |   |   |   |   |   |     |   |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |

6  
WSW

12  
SSW

13  
WSW

12  
SSW

3  
E

11  
S

8  
WSW

2  
WSW

13  
S

7  
WSW  
12 13  
SSW SSW

# MOULRY AND DIRECTOR C STABILITY CLASS

| Date | Time | Direction | Speed | Remarks |
|------|------|-----------|-------|---------|
| 3/17 | 12   | SW        | 5     |         |
| 3/18 | 12   | WNW       | 5     |         |
| 3/19 | 7    | NE        | 6     | NE      |
| 3/20 | 7    | NE        | 6     | NE      |
| 3/21 | 7    | NE        | 6     | NE      |
| 3/22 | 7    | NE        | 6     | NE      |
| 3/23 | 12   | SSW       | 12    | SSW     |
| 3/24 | 12   | SSW       | 13    | SSW     |
| 3/25 | 11   | S         | 11    | S       |
| 3/26 | 1    | ENE       | 1     | ENE     |
| 3/27 | 2    | ESE       | 2     | ESE     |
| 3/28 | 11   | W         | 11    | W       |
| 3/29 | 12   | W         | 12    | W       |
| 3/30 | 12   | SW        | 12    | SW      |
| 3/31 | 12   | SW        | 13    | SW      |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING D1/D2 (LEVEL 1)  
PERIOD 3/ 1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
D STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10  | 11  | 12  | 13  | 14 | 15  | 16  | 17  | 18  | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|----|----|----|----|
| 3/ 1 |   |   |   |   |   |   |   |   |   | 16  | 24  | 25  | 19  | 17 | 16  | 14  | 14  | 14  | 8  |    |    |    |    |    |
| 3/ 2 | 5 | 6 | 3 |   | 3 | 4 | 5 | 3 |   | SSE | SSW | SSW | SSW | S  | SSW | SSW | SSW | SSW | SW | SW | 9  | 9  | 4  | 9  |
| 3/ 3 | 3 | 3 | 3 |   | 3 | 2 | 3 | 2 |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/ 4 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/ 5 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/ 6 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/ 7 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/ 8 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/ 9 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/10 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/11 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/12 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/13 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/14 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/15 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |
| 3/16 |   |   |   |   |   |   |   |   |   |     |     |     |     |    |     |     |     |     | SW | SW | SW | SW | SW | SW |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING D1/D2 (LEVEL 1)  
PERIOD: 3/ 1/77 TO 3/31/77)

HOURLY WIND AND DIRECTION  
D STABILITY CLASS

|      |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 3/17 | 15  | 14  | 12  | 11  | 4   | 2   | 0   | 0   | 0   | 10  | 5   |     |
|      | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW |     |
| 3/18 | 6   |     |     |     | 6   | 3   | 5   | 11  | 12  |     | 11  | 7   |
|      | SSW |     |     |     | SSW | SSW | SSW | SSW | SSW |     | SSW | NNE |
| 3/19 |     |     |     |     |     |     |     | 16  | 14  | 16  | 18  | 14  |
|      |     |     |     |     |     |     |     | SSW | SSW | SSW | SSW | SSW |
| 3/20 | 16  | 14  |     | 15  | 11  | 9   |     |     |     | 16  | 18  | 14  |
|      | SSW | SSW |     | SSW | SSW | SSW |     |     |     | SSW | SSW | SSW |
| 3/21 |     |     |     |     |     |     | 2   |     |     |     |     |     |
|      |     |     |     |     |     |     | N   |     |     |     |     |     |
| 3/22 |     |     |     |     |     |     |     |     |     |     |     |     |
|      |     |     |     |     |     |     |     |     |     |     |     |     |
| 3/23 |     |     |     |     |     |     |     |     |     |     |     |     |
|      |     |     |     |     |     |     |     |     |     |     |     |     |
| 3/24 | 15  | 23  | 22  | 19  | 21  | 21  | 18  | 14  | 18  | 22  | 18  | 15  |
|      | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW |
| 3/25 | 23  | 23  | 22  | 19  | 21  | 21  | 18  | 14  | 18  | 22  | 18  | 15  |
|      | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW |
| 3/26 | 4   | 5   | 2   | 3   | 2   | 2   |     |     |     |     |     |     |
|      | SSW | SSW | SSW | SSW | SSW | SSW |     |     |     |     |     |     |
| 3/27 |     |     |     |     |     |     |     |     |     |     |     |     |
|      |     |     |     |     |     |     |     |     |     |     |     |     |
| 3/28 | 15  | 17  |     | 15  | 10  | 6   |     | 11  | 14  | 14  | 14  | 13  |
|      | SSW | SSW |     | SSW | SSW | SSW |     | SSW | SSW | SSW | SSW | SSW |
| 3/29 |     |     |     |     |     |     |     |     |     |     |     |     |
|      |     |     |     |     |     |     |     |     |     |     |     |     |
| 3/30 |     |     |     |     |     |     |     |     |     |     |     |     |
|      |     |     |     |     |     |     |     |     |     |     |     |     |
| 3/31 |     |     |     |     |     |     |     |     |     |     |     |     |
|      |     |     |     |     |     |     |     |     |     |     |     |     |

C-3 SCALE OIL PROJECT: PETROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING G/DZ (LEVEL 1)  
PERIOD 5/1/77 TO 3/31/77)

## MODELY AND DIRECTIONS F STABILITY CLASS

|      | 1    | 2  | 3    | 4    | 5  | 6  | 7  | 8 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19  | 20 | 21 | 22  | 23 | 24 |
|------|------|----|------|------|----|----|----|---|----|----|----|----|----|----|----|----|----|----|-----|----|----|-----|----|----|
| 3/1  | 5    | 5  | 6    | 9    | 7  | 9  | 10 |   |    |    |    |    |    |    |    |    |    |    | 9   |    |    |     |    |    |
| 3/2  | 1 SE |    | 7 SE | 8 SE | SE | SE | SE |   |    |    |    |    |    |    |    |    |    |    | SSW |    |    |     |    |    |
| 3/3  |      |    | 10   |      |    |    |    |   |    |    |    |    |    |    |    |    |    |    |     |    |    |     |    |    |
| 3/4  | 0    | 0  | 2    | 0    | 0  | 0  | 0  | 0 |    |    |    |    |    |    |    |    |    |    | 3   |    | 2  | 1   | 1  | 1  |
| 3/5  | 0    | 0  | 0    | 0    | 0  | 0  | 0  | 0 |    |    |    |    |    |    |    |    |    |    | NNW |    | W  | WSW | W  | W  |
| 3/6  |      |    |      |      |    |    |    |   |    |    |    |    |    |    |    |    |    |    | NNW |    |    |     |    |    |
| 3/7  | 10   | 10 |      |      |    |    |    |   | 1  |    |    |    |    |    |    |    |    |    | 12  |    |    |     |    |    |
| 3/8  | 0    | 0  |      |      |    |    |    |   | SE |    |    |    |    |    |    |    |    |    | 0   |    |    |     |    |    |
| 3/9  | 0    | 0  |      |      |    |    |    |   | SE |    |    |    |    |    |    |    |    |    | 12  |    |    |     |    |    |
| 3/10 | 0    | 0  |      |      |    |    |    |   |    |    |    |    |    |    |    |    |    |    | 0   |    |    |     |    |    |
| 3/11 |      |    |      |      |    |    |    |   |    |    |    |    |    |    |    |    |    |    | 11  |    |    |     |    |    |
| 3/12 |      |    |      |      |    |    |    |   |    |    |    |    |    |    |    |    |    |    | 11  |    |    |     |    |    |
| 3/13 | 12   | 11 |      |      |    |    |    |   |    |    |    |    |    |    |    |    |    |    | 11  |    |    |     |    |    |
| 3/14 | 0    | 0  |      |      |    |    |    |   |    |    |    |    |    |    |    |    |    |    | 10  |    |    |     |    |    |
| 3/15 |      |    |      |      |    |    |    |   |    |    |    |    |    |    |    |    |    |    | 0   |    |    |     |    |    |
| 3/16 | 0    | 0  |      |      |    |    |    |   |    |    |    |    |    |    |    |    |    |    | 0   |    |    |     |    |    |



C-3 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING D1/D2 (LEVEL 1)  
PERIOD 3/ 1/77 TO 3/31/77)

HOURLY WIND AND DIRECTION  
E STABILITY CLASS

|      |          |   |    |     |    |     |     |     |     |     |     |                |
|------|----------|---|----|-----|----|-----|-----|-----|-----|-----|-----|----------------|
| 3/17 | 13<br>SW | 1 | 3  | 2   | W  | 11  | 11  | W   | W   | 1   | 1   | 6<br>NW        |
| 3/18 |          | 1 | W  |     |    | W   | W   | W   | W   | NNE |     |                |
| 3/19 | 2<br>S   |   |    |     |    | 11  | 11  | SSW | SSW | 13  | 12  |                |
| 3/20 |          |   | 10 | 10  |    | 5   | 5   | SSW | SSW | 8   | 7   | 9              |
| 3/21 | 4<br>NNE |   |    |     |    | ESE | ESE | SSW | SSW | NNW | NNW | NNW            |
| 3/22 |          |   |    |     |    | 9   | 9   | SSW | SSW | 4   | 9   |                |
| 3/23 |          |   | 9  |     |    | 7   | 7   | SSW | SSW | 8   | 9   |                |
| 3/24 | 11<br>S  |   | 9  | 10  | 12 | 9   | 9   | SSW | SSW | 10  | 10  | 12             |
| 3/25 |          |   | 9  | SSW | S  | 11  | 11  | SSW | SSW | 11  | 11  | S              |
| 3/26 |          |   |    |     |    | SSW | SSW | SSW | SSW | S   | SSE |                |
| 3/27 |          |   |    |     |    | 0   | 0   | S   | S   | SE  | SE  |                |
| 3/28 |          |   | 5  |     |    |     |     |     |     | 3   | 3   | 12 11<br>SW NW |
| 3/29 |          |   |    |     |    |     |     |     |     | 4   | 4   | SSW            |
| 3/30 |          |   | 3  | 2   | 1  | SSW | SSW | ESE | ESE | 3   | 3   |                |
| 3/31 |          |   |    |     |    | 1   | 1   | SSW | SSW | 7   | 7   | 4 4<br>SW W    |

COAST GUARD OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING 01/02 (LEVEL 1)  
PERIOD: 3/ 1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
F STABILITY CLASS

WIND

|      | 1   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|-----|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 3/ 1 | 0   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 2 | SE  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 3 |     |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 4 | 2   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 5 | SW  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 6 | 2   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 7 | SW  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 8 | 5   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 9 | SSW |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/10 | SSW |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/11 |     |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/12 | 1   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/13 | SSW |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/14 |     |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/15 |     |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/16 | 9   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

U-S STATE JIL PROJECT NEUROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/02 (LEVEL 1)  
PERIOD 3/ 1/77 TO 3/31/77

[illegible]

LAB SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING D1702 (LEVEL 2)  
PERIOD 5/ 1/73 TO 5/51/77

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 3/1  | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/2  | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/3  | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/4  | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/5  | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/6  | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/7  | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/8  | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/9  | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/10 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/11 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/12 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/13 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/14 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/15 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/16 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/17 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/18 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/19 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/20 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/21 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/22 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/23 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/24 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/25 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/26 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/27 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/28 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/29 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/30 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |
| 3/31 | F | D | E | D | D | D | F | D | D | D  | D  | D  | D  | D  | D  | D  | D  | C  | D  | B  | B  | A  | B  | B  |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING D1/02 (LEVEL 2)  
PERIOD 3/ 1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
A STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 3/ 1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 2 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 3 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 4 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 5 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 6 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 7 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 8 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 9 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/10 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/11 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/12 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/13 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/14 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/15 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/16 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



COAL SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD 3/1/77 TO 3/31/77

HOURLY WIND AND CIRCULATION  
A STABILITY CLASS

|      |   |   |   |   |   |   |  |  |  |   |   |  |
|------|---|---|---|---|---|---|--|--|--|---|---|--|
| 3/17 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/18 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/19 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/20 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/21 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/22 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/23 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/24 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/25 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/26 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/27 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/28 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/29 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/30 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |
| 3/31 | 5 | 3 | 0 | 0 | 2 | 3 |  |  |  | 4 | 3 |  |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD: 3/ 1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
B STABILITY CLASS

|      | 1  | 2  | 3 | 4 | 5  | 6 | 7  | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|----|----|---|---|----|---|----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 3/ 1 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    | 10 | 7  |    | 5  | 10 |
| 3/ 2 | 6  | 9  |   |   |    |   | 6  |   |   | 5  | 6  | 8  | 8  | 11 | 10 | 8  | 9  | 10 | 10 | 9  | SW | SW | NW | NW |
| 3/ 3 | 10 | 10 |   |   |    |   | NW |   |   | W  | W  | W  | W  | W  | W  | W  | W  | W  | W  | W  | W  | W  | W  | W  |
| 3/ 4 |    |    |   |   | 1  |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 5 |    |    |   |   | W  |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 6 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 7 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 8 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 9 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/10 | 7  | 11 |   | 9 | 12 |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/11 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/12 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/13 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/14 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/15 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/16 |    |    |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

# HOURLY WAGE AND OVERTIME BY STABILITY CLASS

II B-1294

C-M SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING D1/02 (LEVEL 2)  
PERIOD 3/ 1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11        | 12        | 13        | 14        | 15        | 16        | 17        | 18        | 19        | 20        | 21        | 22        | 23        | 24        |
|------|---|---|---|---|---|---|---|---|---|----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 3/ 1 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           | 16<br>SW  |           |           |           |           |           |           |
| 3/ 2 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 3/ 3 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 3/ 4 |   |   |   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0         | 12        | 12        | 14        | 15        | 16        | 17        | 18        | 19        | 20        | 21        | 22        | 23        | 24        |
| 3/ 5 |   |   |   | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0         | 14        | 14        | 14        | 15        | 16        | 17        | 18        | 19        | 20        | 21        | 22        | 23        | 24        |
| 3/ 6 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 3/ 7 |   |   |   |   |   |   |   |   |   |    | 14<br>SSW |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 3/ 8 |   |   |   |   |   |   |   |   |   |    |           | 14<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW |
| 3/ 9 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 3/10 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           | 16<br>NW  |           |           |           |           |
| 3/11 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           | 16<br>NW  |           |           |           |           |
| 3/12 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           | 16<br>NW  |           |           |           |           |
| 3/13 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 3/14 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 3/15 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 3/16 |   |   |   |   |   |   |   |   |   |    |           |           |           |           |           |           |           |           |           |           |           |           |           |           |

1-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD 3/ 1/77 TO 3/31/77)

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

|      |           |            |           |           |           |
|------|-----------|------------|-----------|-----------|-----------|
| 3/17 | 15<br>WSW | 14<br>W    | 12<br>W   | 14<br>SW  | 2<br>S    |
| 3/18 |           | 3<br>OFF W |           |           |           |
| 3/19 |           |            |           |           | 16<br>SW  |
| 3/20 | 16<br>WSW | 13<br>WSW  | 13<br>W   | 14<br>SW  | 10<br>NW  |
| 3/21 |           |            |           |           |           |
| 3/22 |           |            |           |           |           |
| 3/23 |           |            | 13<br>SSW | 14<br>SW  | 16<br>S   |
| 3/24 |           |            |           | 15<br>SSW | 15<br>SSW |
| 3/25 |           |            |           | 12<br>S   |           |
| 3/26 |           | 4<br>E     |           |           | 14<br>NW  |
| 3/27 |           |            |           |           |           |
| 3/28 | 15<br>WSW | 13<br>W    | 12<br>W   | 13<br>W   |           |
| 3/29 |           |            |           | 13<br>WSW | 14<br>SW  |
| 3/30 |           |            |           |           |           |
| 3/31 |           |            |           |           |           |



C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD: 3/ 1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
E STABILITY CLASS

|      | 1   | 2   | 3   | 4  | 5  | 6  | 7   | 8  | 9 | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18 | 19 | 20  | 21  | 22 | 23 | 24  |
|------|-----|-----|-----|----|----|----|-----|----|---|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|----|----|-----|
| 3/ 1 |     | 0   |     | 0  | 10 | 9  |     | 11 |   | 17  | 27  | 27  | 21  | 18  | 18  | 16  | 10  |    | 11 |     |     |    |    |     |
| 3/ 2 |     | SE  |     | SE | SE | SE |     | SE |   | SSE | SSW | SSW | SSW | SSW | SSW | SSW | SSW |    | SW |     |     |    |    |     |
| 3/ 3 |     |     |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    |     |     |    |    |     |
| 3/ 4 |     | 1   | 2   |    |    |    | 1   |    |   |     |     |     |     |     |     |     |     |    |    | 2   | 2   | 1  | 1  | 2   |
| 3/ 5 |     | SSW | SSW |    |    |    | SSW |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW | NW | NW | NNW |
| 3/ 6 |     |     |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    | 5   |     |    |    |     |
| 3/ 7 | 14  |     |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW |    |    |     |
| 3/ 8 | SSW |     |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    | 5   |     |    |    |     |
| 3/ 9 |     | 15  |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW |    |    |     |
| 3/10 |     | SSW |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW |    |    |     |
| 3/11 |     |     |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW |    |    |     |
| 3/12 |     |     |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW |    |    |     |
| 3/13 |     | 12  | 17  | 27 | 27 | 21 | 24  |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW |    |    |     |
| 3/14 |     | SE  | SE  | S  | S  | S  | SSW |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW |    |    |     |
| 3/15 |     |     |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW |    |    |     |
| 3/16 |     |     |     |    |    |    |     |    |   |     |     |     |     |     |     |     |     |    |    | NNW | NNW |    |    |     |

C-6 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD( 5/ 1/77 TO 3/31/77)

# HOURLY WIND AND DIRECTION D STABILITY CLASS

[illegible]

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING 61/02 (LEVEL 2)  
PERIOD 3/ 1/77 TO 3/31/77

HOURLY WIND AND DIRECTION  
1. STABILITY CLASS

|      | 1   | 2 | 3 | 4 | 5 | 6 | 7  | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|-----|---|---|---|---|---|----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 3/ 1 | 7   |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 2 | SE  |   |   |   |   |   | 10 |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 3 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 4 | 1   |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 5 | SSW |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 6 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 7 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 8 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/ 9 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/10 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/11 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/12 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/13 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/14 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/15 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3/16 |     |   |   |   |   |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

## STABILITY AND BIFURCATION F-STABILITY CLASS

[illegible]

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING 01/07 (LEVEL 2)  
PERIOD 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
F STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 5/ 1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 2 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 3 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 4 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 5 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 6 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 7 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 8 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 9 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/10 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/11 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/12 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/13 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/14 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/15 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/16 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



# STABILITY AND DIKECTION OF STABILITY CLASS

APPENDIX A  
STABILITY WIND ROSE DIAGRAMS

APPENDIX A  
STABILITY WIND ROSE DIAGRAMS

According to the data presented in AEC Safety Guide No. 23, the relationships between stability classes and  $\sigma_{\theta}$  are as follows (the values shown are averages for each stability classification... $\sigma_{\theta}$  is the standard deviation of horizontal wind direction fluctuations).

| <u>Stability Classification</u> | <u>Pasquill Categories</u> | <u>Average Values<br/><math>\sigma_{\theta}</math><br/>(degrees)</u> |
|---------------------------------|----------------------------|--|
| Extremely Unstable              | A                          | 25.0°  |
| Moderately Unstable             | B                          | 20.0°  |
| Slightly Unstable               | C                          | 15.0°  |
| Neutral                         | D                          | 10.0°  |
| Slightly Stable                 | E                          | 5.0°   |
| Moderately Stable               | F                          | 2.5°   |

Stability wind roses obtained at the trailers in the monitoring network are displayed in the following tables. Because of the relatively low heights above the surface (9 meters) at which the wind data is taken, the stability distributions are skewed toward the unstable end of the spectrum. That is, the unstable classes (A, B, and C) have a much higher frequency of occurrence than would be obtained with the Pasquill method of stability categorization (or with instruments at higher levels).

Table 1 depicts the frequency distribution of Pasquill stability categories based on  $\sigma_{\theta}$  from data collected by M. M. Pendergast and T. V. Crawford at the Savannah River Plant ("Actual Standard Deviations of Vertical and Horizontal Wind Direction Compared to Estimates from Other Measurements", Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974). Three distinct range patterns of stability class

distributions were observed: low, mid, and high, according to the height at which the  $\sigma_\theta$  measurements were taken.

TABLE 1  
FREQUENCY DISTRIBUTION OF PASQUILL STABILITY CATEGORIES

| Height,<br>ft | Stability Categories based on $\sigma_z$ |                              |                              |                             |                            |                            |                     |            |
|---------------|--|------------------------------|------------------------------|-----------------------------|----------------------------|----------------------------|---------------------|------------|
|               | A<br>$\sigma_z > 23$                     | B<br>$18 \leq \sigma_z < 23$ | C<br>$13 \leq \sigma_z < 18$ | D<br>$8 \leq \sigma_z < 13$ | E<br>$4 \leq \sigma_z < 8$ | F<br>$2 \leq \sigma_z < 4$ | G<br>$\sigma_z < 2$ |            |
| 10            | 22.5                                     | 13.3                         | 21.2                         | 23.3                        | 3.9                        | 0.4                        | 3.5                 | LOW RANGE  |
| 35            | 19.3                                     | 11.3                         | 19.4                         | 32.4                        | 15.9                       | 0.7                        | 0.5                 |            |
| 91            | 9.5                                      | 6.7                          | 13.5                         | 21.7                        | 29.5                       | 15.4                       | 2.5                 | MID RANGE  |
| 137           | 9.3                                      | 5.3                          | 11.7                         | 20.3                        | 23.5                       | 12.4                       | 5.5                 |            |
| 162           | 7.0                                      | 2.9                          | 6.3                          | 17.1                        | 25.9                       | 25.5                       | 14.7                | HIGH RANGE |
| 243           | 7.7                                      | 4.3                          | 9.4                          | 17.7                        | 27.5                       | 22.9                       | 10.4                |            |
| 304           | 7.2                                      | 3.7                          | 8.0                          | 17.2                        | 23.7                       | 23.9                       | 11.3                |            |

Also, Figure 1 (from D. H. Slade, Meteorology and Atomic Energy, 1968, p. 52) demonstrates that the line representing very stable conditions (which by their nature are associated with light winds) branches into three separate lines near the ground. The curve at the left represents the smallest values of  $\sigma_\theta$  usually observed. The curve that branches off to the right reflects the contribution of very low-level wind direction meander to the total standard deviation. These meandering oscillations decrease in amplitude very rapidly with height under stable conditions. The central curve represents typical inversion conditions. Actually, for a given stability condition, values of  $\sigma_\theta$  will always be greater when the wind is light than when it is strong. This phenomena is most noticeable in the lowest layers.

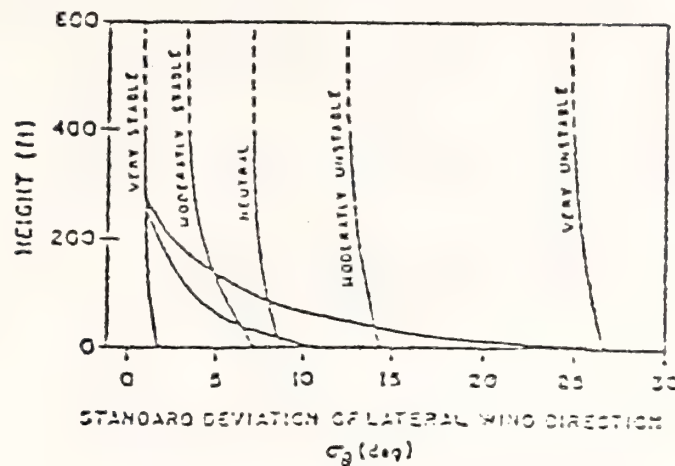


FIGURE 1

The vertical variation of the lateral wind-direction standard deviation ( $\sigma_\theta$ ) for various stability regimes. The curves represent average or typical conditions with the exception of the two outer "very stable" lines, which represent extremes.

The large surface values of  $\sigma_\theta$  for unstable conditions do not decrease very rapidly with height. As in the case of very stable conditions, the greatest lateral fluctuations during a very unstable thermal structure occur with very light winds. As a general rule, for a given insolation condition, increasing wind speeds are associated with profiles of  $\sigma_\theta$  that tend toward neutral stability.

The majority of the trailers in the network recorded very light winds throughout the month. Therefore, the stability distributions had a predominance of high  $\sigma_\theta$  values and, hence, unstable classifications. Those trailers with the highest average winds (and fewest nearby obstacles to the flow) generally had the more reasonable and representative low-level stability class distributions.



STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
200-FOOT LEVEL PERIOD 5/17/10 - 5/31/11

| STABILITY CLASS - A | GROUP MAX SPEED<br>mph | WIND DIRECTION |     |    |     |    |     |    |     |    |     |    |     |    |     |     |     | TOTAL | %       |
|---------------------|------------------------|----------------|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|-------|---------|
|                     |                        | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW | WSW | W  | WNW | NW  | NNW |       |         |
| 01 - 24             | :                      | 7              | 6   | 7  | 6   | 8  | 6   | 7  | 6   | 7  | 7   | 9  | 9   | 10 | 8   | 8   | 7   | :     | 0.      |
| 15 - 26             | :                      |                |     |    |     |    |     |    |     |    |     |    |     |    |     |     |     | :     | 0.      |
| 12 - 16             | :                      |                |     |    |     |    |     |    |     |    |     |    |     |    |     |     |     | :     | 0.      |
| 7 - 12              | :                      | 1              |     | 1  | 2   | 2  |     | 2  |     | 1  | 3   | 4  | 3   | 3  | 22  | 19  | 2   | :     | 63 5.   |
| 3 - 7               | :                      | 66             | 21  | 20 | 18  | 43 | 37  | 15 | 17  | 14 | 22  | 33 | 26  | 58 | 130 | 142 | 129 | :     | 789 68. |
| 11 - 3              | :                      | 32             | 17  | 29 | 22  | 16 | 10  | 7  | 10  | 5  | 10  | 9  | 16  | 22 | 35  | 38  | 34  | :     | 312 27. |
| TOTAL               | :                      | 99             | 38  | 50 | 40  | 61 | 47  | 22 | 27  | 20 | 35  | 46 | 45  | 83 | 187 | 199 | 165 | :     | 1164    |
| PERCENT             | :                      | 9.             | 3.  | 4. | 3.  | 5. | 4.  | 2. | 2.  | 2. | 3.  | 4. | 4.  | 7. | 16. | 17. | 14. | :     | 100.    |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 46 ( 3.95 % )

STABILITY ALOD ROSE PLACER

C-6 SHALE OIL PROJECT  
200-FOOT LEVEL PERIOD( 3/ 1/77 TO 3/31/77)

STABILITY CLASS - B

| GROUP MAX SPTED<br>1PH | WIND DIRECTION |     |    |     |    |     |    |     |     |     |     |     |     |     |     |     |     |     |     | TOTAL | %   |     |      |     |
|------------------------|----------------|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|------|-----|
|                        | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW | N   | NNE |     |       |     |     |      |     |
| 61 - 24                | :              | :   | :  | :   | :  | :   | :  | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :     | :   | :   | :    | 0.  |
| 10 - 24                | :              | :   | :  | :   | :  | :   | :  | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :   | :     | :   | :   | :    | 0.  |
| 12 - 18                | :              | 53  | 10 | 5   | :  | 4   | 7  | 8   | 49  | 90  | 73  | 43  | 50  | 53  | 58  | 52  | 58  | 52  | 52  | 53    | 53  | 52  | 555  | 30. |
| 7 - 12                 | :              | 40  | 27 | 26  | 13 | 8   | 14 | 9   | 65  | 162 | 57  | 54  | 87  | 137 | 137 | 134 | 137 | 134 | 134 | 137   | 137 | 134 | 1018 | 54. |
| 5 - 7                  | :              | 21  | 18 | 6   | 8  | 7   | 12 | 7   | 6   | 9   | 16  | 9   | 14  | 43  | 33  | 39  | 33  | 39  | 39  | 43    | 43  | 39  | 254  | 14. |
| LT 3                   | :              | 4   | 1  | 0   | 0  | 0   | 2  | 3   | 3   | 5   | 1   | 4   | 6   | 3   | 5   | 6   | 5   | 6   | 6   | 3     | 3   | 6   | 48   | 3.  |
| TOTAL                  | :              | 118 | 50 | 37  | 21 | 15  | 32 | 20  | 143 | 260 | 151 | 112 | 157 | 236 | 233 | 231 | 233 | 231 | 231 | 236   | 233 | 231 | 1881 |     |
| PERCENT                | :              | 6.  | 3. | 2.  | 1. | 1.  | 2. | 1.  | 8.  | 14. | 8.  | 6.  | 8.  | 13. | 12. | 12. | 12. | 12. | 12. | 13.   | 12. | 12. | 100. |     |

TOTAL NUMBER OF CALCS DISTRIBUTED ABOVE - 140 ( 0.74 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
200-FOOT LEVEL PERIOD: 3/1/77 TO 3/31/77

| STABILITY CLASS - C |           | WIND DIRECTION |     |    |     |    |     |    |     |    |     |     |     | TOTAL % |
|---------------------|-----------|----------------|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|---------|
|                     |           | N              | NNE | E  | ESE | SE | SSE | S  | SSW | SW | WSW | W   | NNW | NW      |
| GROUP               | MAX SPEED | 19             | 17  | 1  | 0   | 4  | 15  | 10 | 16  | 18 | 22  | 23  | 20  | 19      |
| 61                  | 24        | :              | :   | :  | :   | :  | :   | 1  | 17  | 31 | 11  | 6   | 5   | 3       |
| 18                  | 24        | :              | :   | :  | :   | :  | :   | 7  | 46  | 76 | 28  | 22  | 28  | 15      |
| 12                  | 16        | :              | 16  | :  | 3   | :  | 0   | 1  | 3   | 4  | 3   | 1   | 4   | 8       |
| 7                   | 12        | :              | 5   | :  | 0   | 1  | 9   | 6  | 6   | 2  | 5   | 4   | 4   | 2       |
| 5                   | 7         | :              | 2   | :  | 1   | 1  | 4   | 6  | 1   | 1  | 4   | 5   | 3   | 5       |
| 17                  | 5         | :              | 2   | :  | 2   | 2  | 1   | 2  | 1   | 1  | 4   | 5   | 6   | 5       |
| TOTAL               |           | :              | 64  | :  | 21  | 2  | 0   | 2  | 16  | 15 | 17  | 99  | 51  | 53      |
| PERCENT             |           | :              | 10. | 3. | 0.  | 0. | 3.  | 2. | 3.  | 9. | 17. | 16. | 8.  | 5.      |

TOTAL NUMBER OF CALS DISTRIBUTED ABOVE - 180 (2.83 %)

STABILITY WIND ROSE DIAGRAM

C-6 SHALE OIL PROJECT  
200-FOOT LEVEL PERIOD 5/ 1/77 TO 5/31/77)

STABILITY CLASS - D

| GROUP MAX SPEED<br>MPH | D   | WSE | SE | ESE | E  | ENE | NE | WIND DIRECTION |     |     |     |     |     |     |     | NW   | NNW  | TOTAL | %   |
|------------------------|-----|-----|----|-----|----|-----|----|----------------|-----|-----|-----|-----|-----|-----|-----|------|------|-------|-----|
|                        |     |     |    |     |    |     |    | WSW            | SSW | S   | SSW | SW  | WSW | S   | SSW |      |      |       |     |
| 61 - 24                | 14  | 2   |    |     |    |     |    | 147            | 292 | 149 | 14  | 4   | 9   | 8   | 59  | 698  | 25.  |       |     |
| 16 - 26                | 167 | 17  |    |     |    |     |    | 1              | 6   | 100 | 324 | 229 | 51  | 40  | 22  | 107  | 1030 | 37.   |     |
| 12 - 16                | 25  | 6   |    |     |    |     |    | 6              | 6   | 6   | 112 | 56  | 28  | 27  | 16  | 12   | 18   | 334   | 12. |
| 7 - 12                 | 2   | 6   |    |     |    |     |    | 1              | 12  | 11  | 24  | 15  | 12  | 10  | 16  | 19   | 188  | 7.    |     |
| 3 - 7                  | 8   | 10  |    |     |    |     |    | 8              | 23  | 22  | 18  | 39  | 38  | 19  | 7   | 8    | 10   | 279   | 10. |
| LT 5                   | 9   | 4   |    |     |    |     |    | 4              | 4   | 11  | 15  | 25  | 16  | 17  | 27  | 28   | 13   | 222   | 8.  |
| TOTAL                  | 165 | 45  | 7  | 8   | 21 | 47  | 53 | 70             | 544 | 615 | 464 | 129 | 134 | 107 | 226 | 2751 |      |       |     |
| PERCENT                | 6.  | 2.  | 0. | 0.  | 1. | 2.  | 2. | 3.             | 13. | 30. | 17. | 5.  | 5.  | 4.  | 8.  | 100. |      |       |     |

TOTAL NUMBER OF GALE S DISTRICTED ABOVE - 54 ( 1.96 %)

STABILITY AND ROSE DIAGRAM  
C-B SHALE UJI PROJECT  
200-FOOT LEVEL PERIOD 3/ 1/77 TO 3/31/77)

STABILITY CL-55 - F

| GROUP MAX SPEED                           | N | NNE | NE | ENE | E  | ESE | SE  | SSE | WIND DIRECTION |     |     |     |    |     |    |     | NNW | NW   | TOTAL  | % |
|---|---|-----|----|-----|----|-----|-----|-----|----------------|-----|-----|-----|----|-----|----|-----|-----|------|--------|---|
|   |   |     |    |     |    |     |     |     | N              | SSW | S   | SSW | SW | WSW | W  | NNW |     |      |        |   |
| 61 - 24                                   | 6 | 13  | 7  |     | 14 | 14  | 16  | 18  | 21             | 20  | 17  | 16  | 15 | 15  | 16 | 15  | :   | 0.   |        |   |
| 10 - 24                                   | : | :   | :  | :   | :  | :   | :   | 2   | 11             | 19  | :   | :   | :  | :   | :  | :   | :   | 32   | 2.     |   |
| 12 - 18                                   | : | 2   |    |     | 5  | 10  | 41  | 35  | 66             | 118 | 41  | 8   | 2  | 4   | 1  | 4   | 4   | 335  | 22.    |   |
| 7 - 12                                    | : | 6   | 1  | 3   | 7  | 15  | 50  | 80  | 31             | 67  | 35  | 20  | 10 | 12  | 15 | 4   | 4   | 356  | 24.    |   |
| 5 - 7                                     | : | 2   | 1  | 0   | 24 | 23  | 47  | 42  | 49             | 61  | 49  | 44  | 37 | 28  | 20 | 5   | 5   | 459  | 31.    |   |
| 41 - 3                                    | : | 5   | 10 | 6   | 15 | 17  | 28  | 27  | 34             | 44  | 24  | 24  | 22 | 21  | 21 | 10  | 10  | 310  | 21.    |   |
| TOTAL                                     | : | 7   | 19 | 6   | 49 | 65  | 166 | 186 | 191            | 329 | 149 | 96  | 71 | 65  | 57 | 23  | 23  | 1492 |        |   |
| PERCENT                                   | : | 0.  | 1. | 1.  | 3. | 4.  | 11. | 12. | 13.            | 22. | 10. | 6.  | 5. | 4.  | 4. | 2.  | 2.  | 100. |        |   |
| .....                                     |   |     |    |     |    |     |     |     |                |     |     |     |    |     |    |     |     |      |        |   |
| TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - |   |     |    |     |    |     |     |     |                |     |     |     |    |     |    |     |     | 830  | 5.56 % |   |



STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
200-FOOT LEVEL PERIOD 3/ 1/77 TO 3/31/77)

STABILITY CLASS - 1

GROUP MAX SPEED  
KPH

WIND DIRECTION

|         | N  | NNE | NE | ENE | E  | ESE | SE | SSE | S   | SSW | SW  | WSW | W  | WNW | NW | NNW | TOTAL | %   |
|---------|----|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|-------|-----|
| GT 20   |    |     |    |     |    |     |    |     |     |     |     |     |    |     |    |     |       | 0.  |
| 18 - 20 |    |     |    |     |    |     |    |     |     |     |     |     |    |     |    |     |       | 0.  |
| 12 - 18 |    |     |    |     |    |     | 1  | 18  | 5   | 12  | 47  |     |    |     |    |     | 83    | 11. |
| 7 - 12  |    |     |    |     |    | 11  | 40 | 38  | 34  | 24  | 1   |     |    |     | 1  |     | 149   | 21. |
| 3 - 7   |    |     |    |     | 3  | 11  | 30 | 32  | 88  | 57  | 38  | 6   | 4  | 2   | 3  | 4   | 279   | 39. |
| LT 3    | 3  | 1   | 3  | 3   | 10 | 14  | 25 | 25  | 43  | 45  | 13  | 7   | 9  | 4   | 6  | 0   | 211   | 29. |
| TOTAL   | 3  | 2   | 3  | 3   | 13 | 25  | 67 | 115 | 170 | 148 | 122 | 14  | 13 | 6   | 10 | 4   | 722   |     |
| PERCENT | 0. | 0.  | 0. | 0.  | 2. | 3.  | 9. | 16. | 24. | 20. | 17. | 2.  | 2. | 1.  | 1. | 1.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 62 ( 8.59 %)

STABILITY AND ROSE DIAGRAM

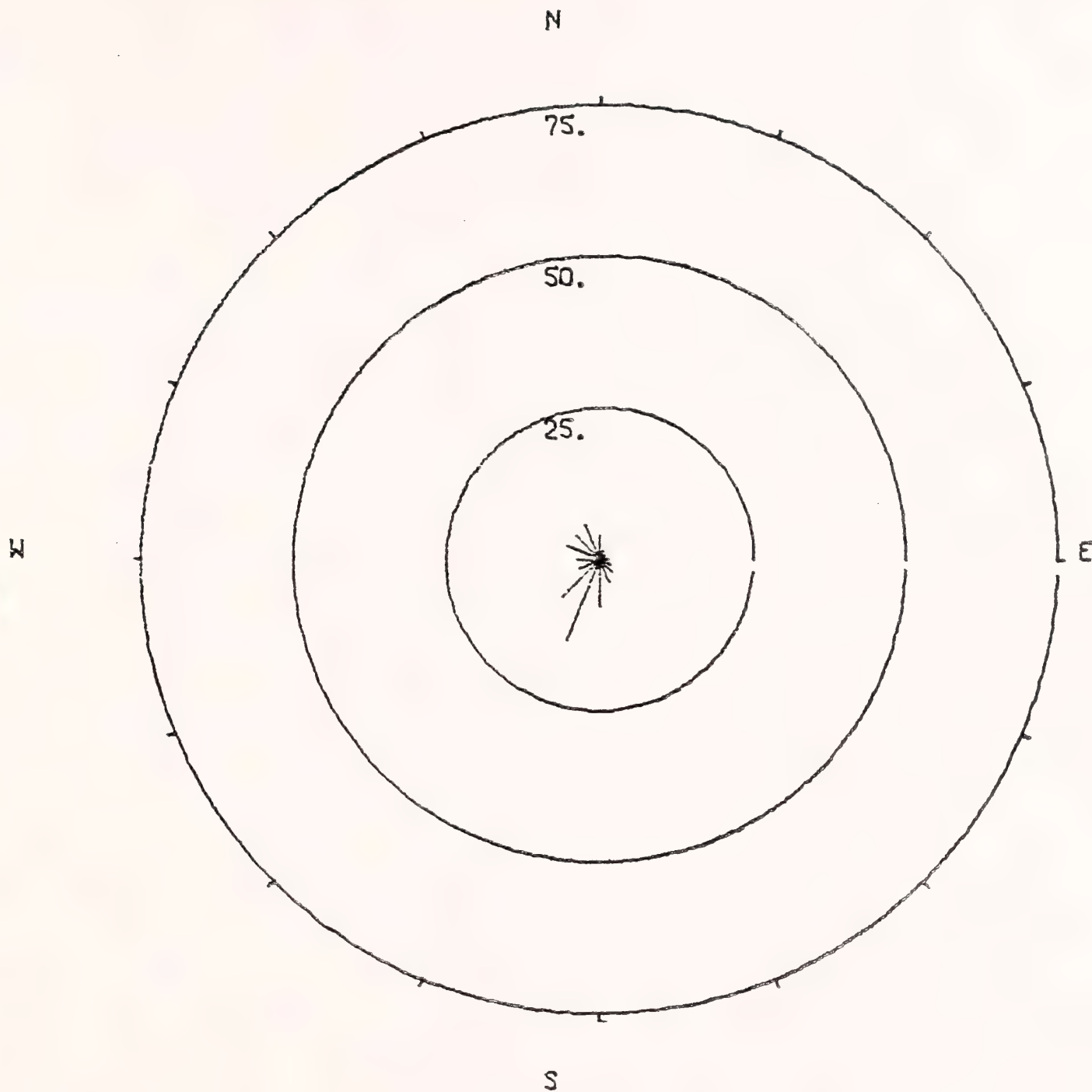
C-B SHALF OIL PROJECT  
200-FOOT LEVEL PERIOD 3/ 1/77 TO 3/31/77)

STABILITY CLASS - TOTAL

| GROUP MAX SPEED<br>MPH                               | N  | NNE | NE  | ENE | E  | ESE | SE  | SSE | WIND DIRECTION |      |      |     |     |     |     |     | TOTAL | %    |
|--|----|-----|-----|-----|----|-----|-----|-----|----------------|------|------|-----|-----|-----|-----|-----|-------|------|
|  |    |     |     |     |    |     |     |     | S              | SSW  | SW   | WSW | W   | WNW | NW  | NNW |       |      |
| 61   | 24 | :   | 14  | 2   |    |     |     | 147 | 292            | 149  | 14   | 4   | 9   | 8   | 59  | :   | 698   | 8.   |
| 18   | 24 | :   | 117 | 17  |    |     | 1   | 8   | 112            | 360  | 264  | 64  | 46  | 51  | 25  | :   | 1170  | 13.  |
| 12   | 18 | :   | 123 | 34  | 5  |     | 57  | 74  | 192            | 408  | 253  | 107 | 103 | 99  | 86  | :   | 1684  | 19.  |
| 7  | 12 | :   | 46  | 42  | 29 | 18  | 84  | 176 | 176            | 294  | 138  | 93  | 113 | 189 | 196 | :   | 1832  | 21.  |
| 5  | 7  | :   | 99  | 51  | 29 | 86  | 115 | 125 | 198            | 212  | 159  | 95  | 113 | 255 | 224 | :   | 2108  | 24.  |
| LE   | 5  | :   | 62  | 39  | 48 | 51  | 77  | 80  | 97             | 128  | 69   | 76  | 95  | 102 | 108 | :   | 1194  | 14.  |
| TOTAL  | :  | 463 | 185 | 111 | 87 | 164 | 344 | 459 | 922            | 1694 | 1032 | 449 | 474 | 685 | 647 | :   | 8686  |      |
| PERCENT  | :  | 5.  | 2.  | 1.  | 1. | 2.  | 4.  | 5.  | 11.            | 20.  | 12.  | 5.  | 5.  | 8.  | 7.  | :   | 8.    | 100. |
| TOTAL NUMBER OF CALS DISTRIBUTED ABOVE - 2770 3.19 % |    |     |     |     |    |     |     |     |                |      |      |     |     |     |     |     |       |      |

TOTAL NUMBER OF CALCS DISTRIBUTED ABOVE - 2770 3.19 %

|                 |             |         |
|-----------------|-------------|---------|
| PERCENTAGE OF A | STABILITY - | 13.40 % |
| PERCENTAGE OF B | STABILITY - | 21.66 % |
| PERCENTAGE OF C | STABILITY - | 7.52 %  |
| PERCENTAGE OF D | STABILITY - | 31.67 % |
| PERCENTAGE OF E | STABILITY - | 17.18 % |
| PERCENTAGE OF F | STABILITY - | 8.51 %  |



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 200 FOOT LEVEL

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# **RADIAN**

## **CORPORATION**

DCN 77-100-152-03

AIR MONITORING REPORT  
FOR  
C-b SHALE OIL PROJECT  
APRIL 1977  
REPORT NO. 32

1 July 1977

Presented to:  
C-b Shale Oil Project  
United Bank Tower  
Denver, Colorado 80202

Prepared by:  
Radian Staff

II B-1315

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| Nitrogen Dioxide (NO <sub>2</sub> )----- | -1360       |
| Sulfur Dioxide (SO <sub>2</sub> )-----   | -1360       |
| Pyranometer-----                         | -1360       |
| Hydrogen Sulfide-----                    | -1360       |
| Total Hydrocarbons-----                  | -1360       |
| Methane-----                             | -1360       |
| Non-Methane-----                         | -1360       |
| Carbon Monoxide-----                     | -1360       |
| Ozone-----                               | -1360       |
| Barometric Pressure-----                 | -1360       |
| Total Precipitation-----                 | -1360       |
| Particulate-----                         | -1360       |
| Wind Speed-----                          | -1361       |
| Wind Direction-----                      | -1361       |
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|          | Nitrogen Dioxide (NO <sub>2</sub> )----- | -1363     |
|          | Sulfur Dioxide (SO <sub>2</sub> )-----   | -1364     |
|          | Pyranometer-----                         | -1364     |
|          | Hydrogen Sulfide-----                    | -1364     |
|          | Total Hydrocarbons-----                  | -1365     |
|          | Methane-----                             | -1365     |
|          | Non-Methane Hydrocarbons-----            | -1365     |
|          | Carbon Monoxide-----                     | -1366     |
|          | Ozone-----                               | -1366     |
|          | Barometric Pressure-----                 | -1366     |
|          | Total Precipitation-----                 | -1367     |
|          | Particulate-----                         | -1367     |
|          | Wind Speed-----                          | -1368     |
|          | Wind Direction-----                      | -1369     |
|          | Relative Humidity-----                   | -1370     |
|          | Temperature-----                         | -1371     |

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|         | Nitric Oxide (NO)-----   | -1374 |
|         | Nitrogen Dioxide (NO <sub>2</sub> )-----                                   | -1375 |
|         | Sulfur Dioxide (SO <sub>2</sub> )-----                                     | -1376 |
|         | Pyranometer-----   | -1377 |
|         | Hydrogen Sulfide-----  | -1378 |
|         | Total Hydrocarbons-----  | -1379 |
|         | Methane-----   | -1380 |
|         | Non-Methane Hydrocarbons-----  | -1381 |
|         | Carbon Monoxide-----   | -1382 |
|         | Ozone-----   | -1383 |



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|         | Wind Speed-Wind Direction-----   | -1386     |
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|          | Sulfur Dioxide-----  | -1391 |
|          | Sulfur Dioxide - 24-hour-----  | -1391 |
|          | Hydrogen Sulfide-----  | -1392 |
|          | Total Hydrocarbons-----  | -1392 |
|          | Methane-----   | -1393 |
|          | Non-Methane Hydrocarbons-----  | -1394 |
|          | Carbon Monoxide - 1-hour-----  | -1395 |
|          | Carbon Monoxide - 8-hour-----  | -1396 |
|          | Ozone-----   | -1397 |
|          | Particulate-----   | -1398 |

|           |   |       |
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|           | Nitric Oxide (NO)-----  | -1401 |
|           | Nitrogen Dioxide (NO <sub>2</sub> )-----                            | -1402 |
|           | Sulfur Dioxide (SO <sub>2</sub> )-----                              | -1403 |
|           | Hydrogen Sulfide (H <sub>2</sub> S)-----                            | -1404 |
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|            | Carbon Monoxide-----  | -1408     |
|            | Ozone-----  | -1409     |
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|            | Nitric Oxide-----   | -1412     |
|            | Nitrogen Dioxide-----   | -1413     |
|            | Sulfur Dioxide-----   | -1414     |
|            | Hydrogen Sulfide-----   | -1415     |
|            | Total Hydrocarbons-----   | -1416     |
|            | Methane-----  | -1417     |
|            | Non-Methane Hydrocarbons-----                                       | -1418     |
|            | Carbon Monoxide-----  | -1419     |
|            | Ozone-----  | -1420     |
|            | Hourly Total Precipitation-----                                     | -1421     |
|            | Wind Speed  |           |
|            | 8 feet-----   | -1422     |
|            | 30 feet-----  | -1423     |
|            | 100 feet-----   | -1424     |
|            | 200 feet-----   | -1425     |
|            | Wind Direction  |           |
|            | 8 feet-----   | -1426     |
|            | 30 feet-----  | -1427     |
|            | 100 feet-----   | -1428     |
|            | 200 feet-----   | -1429     |

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|            | 8 feet-----   | II B-1430 |
|            | 30 feet-----  | -1431     |
|            | 100 feet-----                                       | -1432     |
|            | 300 feet-----                                       | -1433     |
|            | Horizontal Wind Direction Standard<br>Deviation     |           |
|            | 200 feet-----                                       | -1434     |
|            | Relative Humidity                                   |           |
|            | 8 feet-----   | -1435     |
|            | 30 feet-----  | -1436     |
|            | 100 feet-----                                       | -1437     |
|            | 200 feet-----                                       | -1438     |
|            | Temperature   |           |
|            | 8 feet-----   | -1439     |
|            | 30 feet-----  | -1440     |
|            | 100 feet-----                                       | -1441     |
|            | 200 feet-----                                       | -1442     |
|            | Hourly Total Solar Radiation-----                   | -1443     |
|            | Temperature Change from 30' to 100'-----            | -1444     |
|            | Temperature Change from 30' to 200'-----            | -1445     |
|            | Barometric Pressure-----                            | -1446     |
|            | Bi-Vane Wind Speed                                  |           |
|            | 200 feet-----                                       | -1447     |
|            | Horizontal Bi-Vane Wind Direction                   |           |
|            | 200 feet-----                                       | -1448     |
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|            | 200 feet-----                                       | -1449     |
|            | Nitrogen Oxides-----                                | -1450     |
|            | Nitric Oxide-----                                   | -1451     |

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|            | Hydrogen Sulfide-----                               | -1454     |
|            | Total Hydrocarbons-----                             | -1455     |
|            | Methane-----  | -1456     |
|            | Non-Methane Hydrocarbons-----                       | -1457     |
|            | Carbon Monoxide-----                                | -1458     |
|            | Ozone-----  | -1459     |
|            | Hourly Total Precipitation-----                     | -1460     |
|            | Wind Speed  |           |
|            | 8 feet-----   | -1461     |
|            | 30 feet-----  | -1462     |
|            | 100 feet-----                                       | -1463     |
|            | 200 feet-----                                       | -1464     |
|            | Wind Direction                                      |           |
|            | 8 feet-----   | -1465     |
|            | 30 feet-----  | -1466     |
|            | 100 feet-----                                       | -1467     |
|            | 200 feet-----                                       | -1468     |
|            | Relative Humidity                                   |           |
|            | 8 feet-----   | -1469     |
|            | 30 feet-----  | -1470     |
|            | 100 feet-----                                       | -1471     |
|            | 200 feet-----                                       | -1472     |
|            | Temperature   |           |
|            | 8 feet-----   | -1473     |
|            | 30 feet-----  | -1474     |
|            | 100 feet-----                                       | -1475     |
|            | 200 feet-----                                       | -1476     |
|            | Barometric Pressure-----                            | -1477     |

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|              | Solar Radiation-----  | II B-1478 |
|              | Bi-Vane Wind Speed  |           |
|              | 200 feet-----   | -1479     |
|              | Horizontal Bi-Vane Wind Direction                                 |           |
|              | 200 feet-----   | -1480     |
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|              | Class D-----  | -1515     |
|              | Class E-----  | -1516     |
|              | Class Total-----  | -1517     |
|              | 30-foot level - Stability Class A-----                            | -1518     |
|              | Class B-----  | -1519     |
|              | Class C-----  | -1520     |
|              | Class D-----  | -1521     |
|              | Class E-----  | -1522     |
|              | Class Total-----  | -1523     |
|              | 100-foot level - Stability Class A-----                           | -1524     |
|              | Class B-----  | -1525     |
|              | Class C-----  | -1526     |
|              | Class D-----  | -1527     |
|              | Class E-----  | -1528     |
|              | Class Total-----  | -1529     |



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APPENDIX A - STABILITY WIND ROSE DIAGRAMS

|   |           |
|---|-----------|
| 200-foot level - Stability Class A-----           | II B-1530 |
| Class B-----                                      | -1531     |
| Class C-----                                      | -1532     |
| Class D-----                                      | -1533     |
| Class E-----                                      | -1534     |
| Class Total-----                                  | -1535     |
| Percentage of Occurrence of Wind Direction<br>for |           |
| 8-foot level-----                                 | -1536     |
| 30-foot level-----                                | -1537     |
| 100-foot level-----                               | -1538     |
| 200-foot level-----                               | -1539     |

I.           GENERAL DESCRIPTION OF AIR MONITORING PROGRAM

Radian Corporation, under contract to the C-b Oil Shale Project, is performing the data compilation and reporting of air quality and meteorological data at one monitoring site in Northwest Colorado. The site measures and records concentrations of particulates, sulfur dioxide, oxides of nitrogen, hydrogen sulfide, total hydrocarbons, methane, and carbon monoxide. A 200-foot meteorological tower provides wind direction, wind speed, temperature, and relative humidity data at four levels (8, 30, 100, and 200 feet). Other meteorological variables measured at the tower site are insolation, barometric pressure, and precipitation.

Figure I shows the configuration of the monitoring station. The station provides a sturdy and protective covering for the monitoring equipment.

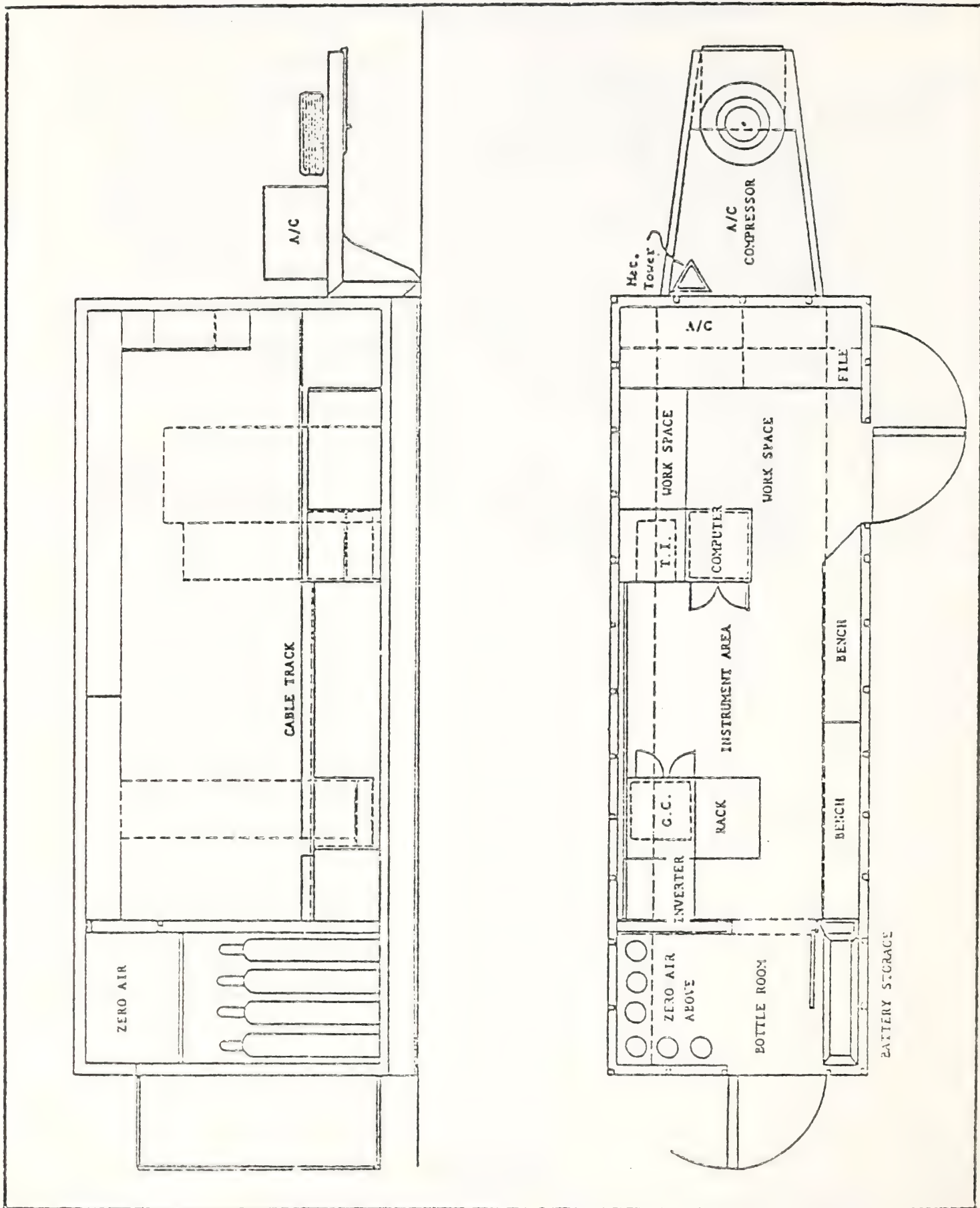


FIGURE 1. CONFIGURATION OF MONITORING STATION

## II. DESCRIPTION OF INSTRUMENT SYSTEMS

### A. Air Quality Instrumentation

Nitrogen oxides are measured with a Meloy Model NA520 analyzer. This dual-channel analyzer is based on the chemiluminescent principle and continuously monitors both  $\text{NO}_x$  and  $\text{NO}$ . A subtraction circuit in the instrument provides a continuous  $\text{NO}_2$  output, but is not used in Radian's system.  $\text{NO}_2$  is calculated once a second by the computer by subtracting the  $\text{NO}$  value from the  $\text{NO}_x$  value, thus avoiding any drift which might occur in the  $\text{NO}_2$  output of the instrument. This instrument has a minimum detectable sensitivity of 5 ppb (parts per billion) and a linearity of  $\pm 1\%$ .

Both sulfur dioxide and hydrogen sulfide are measured with Meloy Model SA185 sulfur analyzers. The hydrogen sulfide analyzer uses a Meloy Model  $\text{NO}_x$ -1 sulfur dioxide scrubber and the sulfur dioxide analyzer uses a Meloy Model  $\text{H}_2\text{S}$ -1 hydrogen sulfide scrubber. The Model SA185 is a continuous analyzer and utilizes the flame photometric principle of operation. The minimum detectable sensitivity is 5 ppb and the linearity is  $\pm 1\%$ .

Ozone is measured with a Meloy Model OA350 analyzer. This instrument, based on the chemiluminescent principle, provides continuous measurement of ozone. The minimum detectable sensitivity is 0.5 ppb and the linearity is  $\pm 1\%$ .

Total hydrocarbons, methane, and carbon monoxide are monitored with a Bendix Model 8200 gas chromatograph analyzer. This instrument, which uses a plume ionization detector, has a minimum detectable sensitivity of 5 ppb for all three components. The Model 8200 works on a five-minute cycle, i.e., one air sample is analyzed every five minutes, and the results are displayed for five minutes via a sample and hold circuit.



The air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25mm diameter, through which a constant air flow is provided by an air pump rated at 60 cfm at 0" head pressure. The manifold has sampling ports to which 1/4" teflon lines to the instrument are connected. All joints in the sampling system are secured by O-ring compression fittings. The manifold is contained in a heated (100°F) chamber to prevent condensation of moisture. The teflon lines from the manifold to the instruments are insulated with 1/8" wall thickness rubber tubing.

The trailer has four heavy duty high volume particulate samplers (Hi-Vols). Fiberglass filter paper is used for the collection of particulate samples, after which each filter is brought to a controlled humidity before weighing. Each Hi-Vol has a flow recorded to permit correction for changes in air flow as the filter becomes loaded with particulates. Each Hi-Vol runs for a 24-hour period (midnight to midnight) and is turned on and off by the computer. The Hi-Vols, which were manufactured by Radian, were designed following guidelines recommended by the Environmental Protection Agency.

In addition to the normal Hi-Vol particulate samples, a duplicate Hi-Vol sample is collected every sixth day on special filter paper for trace element analysis. Once each quarter these samples are composited and analyzed for gross radioactivity and trace element content.

#### B. Calibration Procedures

The trailer contains a Meloy Model RAD-1 calibration unit. This instrument provides a zero air supply, SO<sub>2</sub> span gas from an SO<sub>2</sub> permeation tube, and NO span gas obtained by precisely



diluting bottled NO span gas. The computer-controlled calibration of all instruments is automatically performed once a day. Each instrument is first switched to zero; the computer monitors the output of each channel and takes a new zero reading after a stable zero signal has been reached. This zero reading is compared by the computer to the zero reading obtained 24 hours before, and if a drift in excess of 10 ppb has occurred, an excess zero drift light for the channel in question is turned on on the System Status Panel. Next, span gas is supplied to each channel and the computer decides when a stable span value has been reached. This value is recorded and compared to the previous day's value. An excess span drift light on the System Status Panel is turned on if a drift exceeding 10 ppb occurs. The instruments are then returned to the monitor mode and after two minutes the computer resumes data taking.

The bottled NO gas used at each site was obtained from Precision Gas Products. Pre-purified grade hydrogen is used in the SO<sub>2</sub> analyzers.

The SO<sub>2</sub> permeation tubes were manufactured by Metronics Association, Inc. Their output has been verified by comparison to the output of National Bureau of Standards tube 10-42. Both SA185 analyzers in each trailer are calibrated with the SO<sub>2</sub> from the permeation tube. This instrument responds to the number of sulfur atoms per molecule; thus, SO<sub>2</sub> can be used to calibrate both the H<sub>2</sub>S and SO<sub>2</sub> monitors.

The Model OA350 ozone analyzer has its own calibration system which provides a zero check and a span check. The ozone calibration system is verified by comparison to a calibrated ozone generator maintained in Radian's laboratory in Rifle.

The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from AirCo's Rare and Specialty Gas Division. This span gas contains methane and carbon monoxide in air, the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroed with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

The Hi-Vol particulate samplers were calibrated using a Calibration Kit from General Metal Works.

### C. Data Acquisition System

The basis of the data acquisition system is a Data General NOVA 1200 minicomputer. The NOVA, which has a basic cycle time of 1.2  $\mu$ sec, is equipped with automatic program load and power fail/automatic restart features. The computer utilizes 16K 16-bit words of core memory. Analog-to-digital conversion is accomplished via an ADC built by Radian Corporation. The input/output unit for the system is Texas Instrument's KSR 733 keyboard/printer. This model teletype provides keyboard entry and hardcopy printed output. The data are also recorded on a cassette magnetic tape unit with three drives. The cassette unit is utilized for program storage and loading as well as for recording. To reduce wear on mechanical parts, the power to the teletype and cassette units is turned on only when the unit(s) is (are) to be used. Several important functions in the instruments as well as in the computer and the trailer are monitored by means of lights on a System Status Panel. These data lights are written onto cassette tape to monitor the complete status of the system every five minutes. The Data Acquisition System also monitors the presence of 100V power from the power lines. In its absence, the computer, which is powered by batteries, switches all trailer

systems to battery-provided power. If the line voltage is restored before the batteries are discharged to a specified level, the trailer system is switched back to line power.

D. Meteorological Instrumentation

200-Foot Meteorological Tower

The tower has instrumentation at four levels: 8 feet, 30 feet, 100 feet, and 200 feet. At all four levels, there are: wind speed, wind direction, and temperature and relative humidity sensors in a power-aspirated radiation shield. Temperature difference thermistors (also in power-aspirated radiation shields) and their associated circuitry take lapse rate measurements for the 30-foot to 100-foot layer and the 30-foot to 200-foot layer. In addition, this site has a Precision Spectral Pyranometer, a barometer, and a tipping bucket rain/snow gage.

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather coaxial cup and damped vane assembly. The prototype model has been in operation for years under the most demanding weather conditions, performing continuously with the utmost reliability. The wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:



Wind Speed

- . Starting Threshold: 0.75 mph.
- . Response Distance: 18 feet (63% recovery).
- . Flow Coefficient: 7.9 feet/Revolution.
- . Accuracy:  $\pm 0.4$  mph or 1% (whichever is greatest)

Wind Direction

- . Starting Threshold: 0.75 mph.
- . Delay Distance: 4 feet (50% recovery).
- . Damping Ratio: 0.5 to 0.6.
- . Accuracy (540° system):  $\pm 1\%$ .
- . Range: 0° to 540°.

The relative humidity and temperature sensors are mounted within a power-aspirated radiation shield at each tower level. All aspirators and sensors are of the Model 840 Series by MRI. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. Ambient air is drawn into the shield and across the sensors at approximately 15 feet per second. This intake air is essentially sampled from a hemispherical space which is approximately 3-inch radius from the tube opening. Speed of the incoming air at the periphery of this hemisphere is approximately 1 mph.

The temperature sensor is comprised of a dual thermistor and resistor network. This circuit provides a linear resistance change with an air temperature change. The relative humidity sensor is placed alongside the temperature elements inside the shield where it is exposed to a constant flow of air. Circulation to both sides of the sensing element produces accurate monitoring with a good response time. The specifications on the sensing elements are as follows:

Temperature

- . Accuracy:  $\pm 0.25^{\circ}\text{C}$ .
- . Range:  $-50^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ .

Humidity

- . Accuracy:  $\pm 3.0\%$  RH.
- . Range: 0% to 100% Relative Humidity.

Measurements of temperature difference are taken for two layers, the 30-foot to 100-foot and the 30-foot to 200-foot layer. The thermistors and circuitry used for these measurements are separate from the thermistors measuring air temperature. The use of separate thermistors and circuitry to measure  $\Delta T$  allows for much greater accuracy and resolution in the measurements, which is necessary for stability assessments. Two  $\Delta T$  thermistors are at the 30-foot level, one is at the 100-foot level, and one is at the 200-foot level. All of these  $\Delta T$  thermistors are mounted within power-aspirated radiation shields. The specifications on the  $\Delta T$  instrumentation are as follows:

- . Accuracy:  $\pm 0.1^{\circ}\text{C}$ .
- . Range of  $\Delta T$  Circuit (Lower Level-Upper Level):  
 $+9\text{F}^{\circ}$  to  $-9\text{F}^{\circ}$ .

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The meteorological tower itself is a 200-foot Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with  $\frac{1}{2}$ " of radial ice per EIA Standard RS-222-B, to



support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12-feet long, three outside work platforms, an inside ladder for climbing, two base ground kits and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specifications.

The signals from the tower instrumentation are fed from multiple signal cables into transmitters mounted at the base of the tower. After signals have been converted to analog signals, they are fed into a junction box, also at the tower base, where they are assimilated into one coaxial cable. The signals are then run underground within 3" PVC conduit to the A-to-D assembly, where they are processed. The transmitters are shielded and insulated from the elements. The signal cable is run underground in PVC conduit in order to minimize damage from the weather or from various rodents in the region.

The auxiliary equipment at the tower site consists of a heated tipping bucket rain/snow gage, an analog barometer, and a Precision Spectral Pyranometer. The rain/snow gage is the Model P511-E unit by Weather Measure. In the case of this gage, the durability and reliability of a tipping bucket gage are combined with heavy-duty electric heaters to make this an all-purpose precipitation sensor. This gage may be used to measure both snowfall and rainfall. An insulating cover of poly-vinyl chloride and a thermostatic control insure the proper gage temperature. The thermostatic control is adjustable from 0 to 35°C. Snow falling into the inlet funnel is melted. The resulting water (from rain or snow) drains into a precision tipping bucket mechanism which activates a mercury switch each time the bucket fills and tips. The gage is constructed of durable corrosion-resistant materials to provide many years of service. The

specifications for this gage are as follows:

- . Orifice: 8 inches.
- . Calibration: 0.01 inch.
- . Accuracy: 0.5% (Calibrated at 0.5 in/hr).
- . Sensor: Chrome-plated tipping buckets.
- . Switch: Mercury, 0.1-second closure.
- . Heat Control: Thermostat adjustment, 0 to 35°C.

The barometer is the B242 Analog Output Barometer by Weather Measure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on this instrument, which is mounted inside the monitoring trailer at the site, are as follows:

- . Range: Specially designed for the 100 millibar interval from 725 millibars to 825 millibars.
- . Resolution: Infinite.
- . Linearity:  $\pm 0.5$  millibar, over the 100 millibar interval.

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand  $4\frac{1}{2}$  feet from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- . Sensitivity: 5 mv. per  $\text{cal/cm}^2/\text{min}$ .
- . Independence: 300 ohms.
- . Temperature dependence: Sensitivity constant to within  $\pm 1$  percent over the ambient temperature range from -20 to +40°C.

- . Linearity: Response linear up to intensities of 4 cal/cm<sup>2</sup>/min.
- . Response time: 1 second (i/e signal).

All instrumentation is factory-calibrated and is field-calibrated at various intervals. Sling psychrometers are used to calibrate the humidity sensors; known temperatures and/or resistances are used to calibrate the thermistors; and an rpm calibrating unit is used to calibrate the anemometers. The wind direction instrumentation is aligned to true north (reference direction) by means of a surveyor's transit.

III. MICROMETEOROLOGICAL AND TERRAIN FEATURES

The Piceance Creek Valley and C-b Shale Oil Tract are situated such that many microscale meteorological phenomena affect the region where the ambient air monitoring unit is located. Trailer 023 and its associated 200-foot meteorological tower are located atop a plateau to the south of the valley, high enough to be affected mostly by gradient flow conditions.

The elevation at the meteorological tower site (Trailer 023) is 6940 feet above sea level. The largest gradients in elevation in this area, of course, occur at the Piceance Creek Valley walls. However, the northern valley walls are slightly steeper than those at the southern boundary of the valley, which then slopes upward gradually toward the C-b Tract. The Piceance Creek Valley decreases in elevation from east to west in this area, so that nighttime katabatic cold-air drainage flows advect from east to west.

Site 023 is approximately 2.5 miles south of the Piceance Creek Valley. This location is relatively high compared to its surroundings, with the nearest point having an elevation greater than 7000 feet being .5 miles to the south of the tower. The tower itself is on the top of a small knoll located between Scandard and Sorghum Gulches. Because of its location and the irregularities of the surrounding terrain, meteorological patterns are varied here.

Wind instrumentation is mounted at four levels of the meteorological tower: 8 feet, 30 feet, 100 feet, and 200 feet. The top level of the tower generally remains in gradient wind flow. That is, the winds at that level are normally generated



by synoptic-scale features and are usually separated from terrain features and micrometeorological circulations. Occasionally, a weak anabatic flow influence is experienced. However, such is not the case with the three lowest measurement levels. To varying degrees, these levels are influenced by both the katabatic and anabatic circulation cells. However, when strong pressure gradient forces exist in the region and the synoptic-scale wind flow is strong, all four tower levels will reflect a gradient wind flow as the winds increase in strength and height.

The terrain atop the plateau is generally barren and fairly rugged, with a few scattered small trees. The topsoil dries rapidly and is very fine, resulting in blowing dust when dry, windy conditions exist. In the Piceance Creek Valley, the terrain is fairly grassy and flat, with steep valley walls on either side. Surface winds are normally rather light in this valley unless channeling effects occur.

During clear nights with rather light pressure gradient-induced winds, rapid radiational cooling will occur in the region because of the barren nature of the terrain and the generally dry character of the air in this portion of the country. As a result, the diurnal range of temperatures will be extremely large. Because of the katabatic flow in the valley, nighttime temperatures will generally be lower in the valley than on the plateau. During the winter, especially, temperatures in the valley may be 20F° lower than they are on the plateau during the early morning hours.



IV. OPERATING TIME ANALYSIS FOR EACH SITE

This section presents the operating statistics for each of the major subsystems contained in the monitoring station. Table I shows the specific number of hours that each of these subsystems were inoperative for the month. The column labeled "DIGITIZING SYSTEM" indicates the entire data acquisition system; therefore, downtime hours appearing in this column means total loss of data. These instances include, in addition to computer downtime, power failures, no power available, and self-automated shutdown periods such as during air conditioner malfunctions.

Calibration time is not considered to be downtime and is, therefore, not included in the downtime figures. The amount of time used in calibrating the instruments is given at the bottom of the downtime analysis table and is reported as total calibration hours for each channel for the entire month. As is evident in the calibration figures, channels can be calibrated independently of one another. No calibration time is given for particulate monitoring since Hi-Vol calibration occurs infrequently and only during the off-duty cycle for each Hi-Vol while another Hi-Vol is taking data.

TABLE I.  
 DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

| DATE     | DIGITIZING<br>SYSTEM | NOX | NO  | S02 | WS | WD | RH | TOUT | PYR | H2S | VOLT | THC | CH4 | CO  | 03  | PRES | RAIN | PART |
|----------|----------------------|-----|-----|-----|----|----|----|------|-----|-----|------|-----|-----|-----|-----|------|------|------|
| 4/ 1     | 0.                   | 0.  | 0.  | 0.  | 1. | 1. | 0. | 0.   | 0.  | 0.  | 0.   | 4.  | 4.  | 1.  | 0.  | 0.   | 0.   | 24.  |
| 4/ 2     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 3.  | 3.  | 16. | 0.  | 0.   | 0.   | 0.   |
| 4/ 3     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 1.  | 1.  | 24. | 0.  | 0.   | 0.   | 0.   |
| 4/ 4     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 7.  | 7.  | 24. | 0.  | 0.   | 0.   | 0.   |
| 4/ 5     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 7.  | 7.  | 16. | 0.  | 0.   | 0.   | 0.   |
| 4/ 6     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 2.  | 2.  | 11. | 0.  | 0.   | 0.   | 0.   |
| 4/ 7     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 24. | 0.  | 0.   | 0.   | 0.   |
| 4/ 8     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 24. | 0.  | 0.   | 0.   | 0.   |
| 4/ 9     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 24. | 0.  | 0.   | 0.   | 0.   |
| 4/10     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 24. | 0.  | 0.   | 0.   | 0.   |
| 4/11     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 24. | 0.  | 0.   | 0.   | 0.   |
| 4/12     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 24. | 0.  | 0.   | 0.   | 0.   |
| 4/13     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 2.  | 0.  | 14. | 0.  | 0.   | 0.   | 0.   |
| 4/14     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 24.  |
| 4/15     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 1.  | 0.  | 0.   | 0.   | 0.   |
| 4/16     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 4/17     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 1.  | 0.  | 0.   | 0.   | 0.   |
| 4/18     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 1.  | 0.  | 0.   | 0.   | 0.   |
| 4/19     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 1.  | 1.  | 1.  | 0.  | 0.   | 0.   | 0.   |
| 4/20     | 1.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 2.  | 2.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 4/21     | 2.                   | 8.  | 9.  | 0.  | 0. | 1. | 0. | 0.   | 0.  | 0.  | 0.   | 1.  | 1.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 4/22     | 0.                   | 9.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 24. | 0.  | 0.   | 0.   | 0.   |
| 4/23     | 0.                   | 0.  | 0.  | 0.  | 1. | 1. | 1. | 1.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 4/24     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 4/25     | 1.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 20. | 0.  | 0.   | 0.   | 24.  |
| 4/26     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 23. | 0.  | 0.   | 0.   | 24.  |
| 4/27     | 2.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 21. | 0.  | 0.   | 0.   | 0.   |
| 4/28     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 23. | 0.  | 0.   | 0.   | 0.   |
| 4/29     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 23. | 0.  | 0.   | 0.   | 0.   |
| 4/30     | 0.                   | 0.  | 0.  | 0.  | 0. | 0. | 0. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 23. | 0.  | 0.   | 0.   | 0.   |
| CAL TIME |                      | 13. | 13. | 12. | 0. | 0. | 0. | 0.   | 0.  | 14. | 0.   | 12. | 12. | 12. | 10. | 0.   | 0.   | 0.   |

TABLE I.  
 DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DIGITIZING

| DATE     | SYSTEM | WS1 | WD1 | RH1 | IMP1 | WS2 | WD2 | RH2 | IMP2 | WS3 | WD3 | RH3 | IMP3 | WS4 | WD4 | RH4 | IMP4 | DT1 | DT2 |
|----------|--------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|
| 4/ 1     | 0.     | 0.  | 0.  | 0.  | 0.   | 1.  | 1.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/ 2     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/ 3     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/ 4     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/ 5     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/ 6     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/ 7     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/ 8     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/ 9     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/10     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/11     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/12     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/13     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/14     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/15     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/16     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/17     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/18     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/19     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/20     | 1.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/21     | 2.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/22     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/23     | 1.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/24     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/25     | 1.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/26     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/27     | 2.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/28     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/29     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| 4/30     | 0.     | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |
| CAL TIME |        | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |



TABLE I.  
 DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

| DATE     | BWS1 | HWD1 | VWD1 | HWS2 | HWD2 | VWD2 | BWS3 | HWD3 | VWD3 | WSD1 | WSD2 | WSD3 | WSD4 | HSD1 | VSD1 | HSD2 | VSD2 | HSD3 | VSD3 |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 4/ 1     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   |
| 4/ 2     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   |
| 4/ 3     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   |
| 4/ 4     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 14.  | 14.  | 14.  | 14.  | 24.  | 24.  | 24.  | 24.  | 14.  | 0.   |
| 4/ 5     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/ 6     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 1.   | 0.   |
| 4/ 7     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/ 8     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/ 9     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/10     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/11     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/12     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/13     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/14     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/15     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/16     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/17     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/18     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/19     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/20     | 23.  | 23.  | 23.  | 23.  | 23.  | 23.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 23.  | 23.  | 23.  | 23.  | 0.   | 0.   |
| 4/21     | 22.  | 22.  | 22.  | 22.  | 22.  | 22.  | 10.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 22.  | 22.  | 22.  | 22.  | 0.   | 0.   |
| 4/22     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/23     | 23.  | 23.  | 23.  | 23.  | 23.  | 23.  | 23.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 23.  | 23.  | 23.  | 23.  | 0.   | 0.   |
| 4/24     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/25     | 23.  | 23.  | 23.  | 23.  | 23.  | 23.  | 23.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 23.  | 23.  | 23.  | 23.  | 0.   | 0.   |
| 4/26     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/27     | 22.  | 22.  | 22.  | 22.  | 22.  | 22.  | 22.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 22.  | 22.  | 22.  | 22.  | 0.   | 0.   |
| 4/28     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/29     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 4/30     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| CAL TIME | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   |

V. MONTHLY METEOROLOGICAL SUMMARY

A. Summary of the Meteorological Conditions over North America during April 1977

April 1977 was warmer than normal for all but the most southern part of the United States. The Southeast and Southwest experienced near normal temperatures. Variable monthly precipitation totals characterized most sections of the country. The polar front jet stream weakened and was oriented much further north than during the winter months preceding April. The mean long-wave circulatory pattern for April was nearly zonal. This differs from the ridge-trough patterns during the preceding winter months.

The long-wave circulation was zonal on the 1st, from the 5th through the 9th, and from the 27th through the 29th. Split flow occurred on the 13th, the 15th through 17th, and from the 21st through the 23rd. Meridional flow occurred from the 2nd through the 4th, from the 10th through the 12th, on the 14th, from the 18th through the 20th, from the 24th through the 26th, and on the 30th.

The frequency of extratropical low pressure systems was normal during April. These low pressure systems mostly affected the region from the Rockies eastward through New England. The dates and locations of these low pressure systems were as follows:

|      |   |
|------|---|
| 1st: | Rockies   |
| 2nd: | Rockies, Great Plains, Great Lakes                        |
| 3rd: | Great Plains, New England                                 |
| 4th: | Great Plains, Great Lakes                                 |
| 5th: | Great Lakes, Atlantic Seaboard, New England               |
| 7th: | Great Lakes   |
| 8th: | Great Lakes, New England, Pacific Northwest<br>West Coast |



8th: Great Lakes, New England, Pacific Northwest  
West Coast  
11th: Rockies  
15th: Rockies  
17th: Great Plains  
18th: Rockies  
19th: Rockies  
20th: Great Plains  
22nd: Southeast, Great Lakes  
23rd: Great Lakes, Atlantic Seaboard  
24th: Great Lakes, Atlantic Seaboard, New England  
25th: New England  
26th: New England  
27th: Great Lakes  
28th: Great Lakes, New England, Great Plains

On a sectional basis, the following temperature and precipitation anomalies occurred during April:

| <u>Section</u>                | <u>Temperature</u>    | <u>Precipitation</u>             |
|-------------------------------|-----------------------|----------------------------------|
| Northeast                     | Slightly above normal | Slightly above normal            |
| Atlantic<br>Seaboard          | Above normal          | Near normal                      |
| North Central                 | Much above normal     | Variable; mostly below<br>normal |
| Central                       | Above normal          | Slightly below normal            |
| Southeast                     | Near normal           | Variable                         |
| Southwest                     | Near normal           | Much above normal                |
| Rockies                       | Much above normal     | Below normal                     |
| West and Pacific<br>Northwest | Above normal          | Very much below normal           |

B. Summary of the Meteorological Conditions in  
Northwestern and West Central Colorado during  
April 1977

Grand Junction, Colorado, sixty miles to the southwest of the Tract C-b, received a total of 0.54 inch of precipitation during April, which is 0.25 inch below the monthly normal of 0.79 inch. Grand Junction received 1.7 inches of snow during April. Measurable precipitation occurred on the 1st, 2nd, 11th, 12th, 13th, 19th, and the 28th. The region received 77 percent of the possible monthly sunshine. Sky cover by cloudiness averaged 5.1 out of a possible 10 during the daylight hours and 4.4 out of a possible 10 during the entire month. The region had nine clear days, twelve partly cloudy days, and nine cloudy days during the month.

Air mass changes were less frequent during April than March. Only four frontal passages occurred during April as the polar front jet stream weakened and moved further north. Transport winds over the region as a whole were approximately the same strength as those during March. Maritime polar cold frontal passages occurred on the 10th, 14th, and the 18th. A continental polar cold frontal passage occurred on the 2nd.

C. Summary of the Meteorological Conditions in the  
Oil Shale Tract C-b Region during April 1977

The northward movement of the polar front jet stream was responsible for the decreased frequency of cold frontal passages during April. Precipitation occurrences were as numerous during April as March. Precipitation occurred on the 2nd, 11th, 12th, 13th, 15th, 19th, and the 27th. Temperatures in the Tract C-b region were above normal during April.

Four cold frontal passages occurred during April. Maritime polar cold frontal passages occurred on the 10th, 14th, and the 18th. A continental polar cold frontal passage occurred on the 2nd.

The monthly average temperatures recorded at the meteorological tower during April were: 42.0°F at 8 feet; 43.4°F at 30 feet; 43.0°F at 100 feet; and 42.3°F at 200 feet. These averages are approximately 16°F higher than those recorded in March. The warmest days of the month were the 9th, 10th, the 23rd through the 26th, and the 29th and 30th. The coolest days were the 1st through the 3rd, and the 19th. The highest temperature recorded at the meteorological tower during April was 69°F at the 8-foot level on the 30th. The coldest temperature recorded at the meteorological tower was 11°F at the 200-foot level on the morning of the 3rd.

Monthly average relative humidities during April were approximately the same as those in March in the Tract C-b region. This similarity can be attributed to increases in monthly average temperature and moisture. At the meteorological tower, the monthly average relative humidities were: 67.2 percent at 8 feet; 66.7 percent at 30 feet; 68.4 percent at 100 feet; and 66.4 percent at 200 feet. These relative humidities



correspond to dew points of 32°F, 33°F, 33°F, and 32°F, respectively. The most humid days of the month were the 2nd, 12th, 15th, 16th, and the 19th. The driest days were the 9th, 10th, 22nd, and the 23rd.

Wind speeds on the meteorological tower during April were weaker on the average than the winds that prevailed during March. Resultant wind vectors at the meteorological tower during March were as follows: 241.4 degrees at 1.5 miles per hour at 8 feet; 231.7 degrees at 2.0 miles per hour at 30 feet; 231.5 degrees at 2.0 miles per hour at 100 feet; and 244.4 degrees at 2.4 miles per hour at 200 feet.

The scalar average wind speeds associated with these resultant wind vectors were 5, 6, 7, and 8 miles per hour, respectively. The Ekman spiral and Ekman effect, i.e., a veering in direction and increase in speed as a function of increasing height above the surface, were in evidence during most of April. A reference to the April wind rose for the meteorological tower indicates that the winds at the 8- and 30-foot levels were primarily southwesterly and south-southwesterly. At the 100- and 200-foot levels, winds were primarily northwesterly with a high percentage of south-southwesterly winds in addition.

The windiest days of the month at the meteorological tower were the 9th, 10th, 14th, and the 18th. The days having the lightest winds were the 5th, 7th, 16th, 21st, 22nd, and the 23rd. The highest five-minute average wind speed recorded at the tower during April was 33 miles per hour at the 200-foot level on the 11th.

Precipitation totals in the Tract C-b Monitoring Network during April were generally below normal. The total number of precipitation occurrences were the same during April as during March.

Only 0.50 inch of precipitation was recorded at the meteorological tower during April. The largest daily precipitation total recorded in the network during April was 0.13 inch on April 15th. The greatest five-minute precipitation total recorded during the month was 0.02 inch (a precipitation rate of 0.24 inch/hour), recorded on the 11th and the 13th. Measurable precipitation ( $\geq .01$  inch) was recorded at the meteorological tower on the 2nd, 11th, 12th, 13th, 15th, 19th, and the 27th. The precipitation on the 11th and 27th was in the form of rain. All other precipitation occurrences were in the form of snow.

The monthly average station pressure during April was 789.3 millibars at the meteorological tower. This reading is 5.4 millibars higher than the March average station pressure of 783.9 millibars. The highest daily average station pressure occurred on the 6th, 7th, 23rd, and the 24th. The lowest daily average station pressures occurred on the 1st and 2nd.

Cloudiness decreased slightly in the Tract C-b region during April, compared to the March cloud cover and insolation statistics. The region received an insolation total of 12,864.5 langleys, which is equivalent to a daily average insolation total of 429 langleys/day. This average is below the normal for April of 540 langleys/day in the Tract C-b region. On a diurnal basis, the greatest solar radiation rates occurred between 1200 and 1300 hours. The greatest daily radiation totals were received on the 8th, 9th, 10th, 14th, 22nd, 23rd, 24th, and the 30th. The lowest daily solar radiation totals were received on the 2nd, 12th, 15th, 19th, and the 27th. The greatest five-minute



radiation total received during April was 7.85 langleys (a rate of 1.57 langleys/minute), which occurred on the 13th. The largest hourly insolation total received during April was 81 langleys, which occurred on the 14th between 1200 and 1300 hours and on the 30th between 1100 and 1200 hours.

Because of the progressively increasing solar elevations and the increasingly longer periods of daylight that prevailed during April, the total possible solar radiation which could be received during a day increased monotonically throughout the month.

The slight decrease in cloudiness which affected the Tract C-b during April caused the "very unstable" and "slightly unstable" stability classes to become more common than they had been in March. Using the Pasquill method of stability determination, "D" stability (neutral stability) was the most common stability, occurring during 156 daytime hours, or 40.2 percent of the time. In decreasing order of frequency, "C" (slightly unstable) stability occurred during 146 hours, or 37.6 percent of the time, and "B" (very unstable) stability occurred during 85 hours, or 21.9 percent of the time. "A" (extremely unstable) stability occurred during only one daytime hour.

Using the lapse rate method of stability determination ( $\frac{dT}{dz}$ ), the "very unstable" ("B"), and neutral ("D") stability classes were the most prevalent during April. In general, stable and/or neutral conditions prevailed during the nighttime hours and unstable and/or neutral conditions prevailed during the day. The following table is a diurnal breakdown of the various stability classes. As one proceeds from "A" to "F", the stability class ranges from extremely unstable to extremely stable. The column labeled "number of occurrences" indicates the number of times a particular stability class occurred during

Precipitation totals in the Tract C-b Monitoring Network during April were generally below normal. The total number of precipitation occurrences were the same during April as during March.

Only 0.50 inch of precipitation was recorded at the meteorological tower during April. The largest daily precipitation total recorded in the network during April was 0.13 inch on April 15th. The greatest five-minute precipitation total recorded during the month was 0.02 inch (a precipitation rate of 0.24 inch/hour), recorded on the 11th and the 13th. Measurable precipitation ( $\geq .01$  inch) was recorded at the meteorological tower on the 2nd, 11th, 12th, 13th, 15th, 19th, and the 27th. The precipitation on the 11th and 27th was in the form of rain. All other precipitation occurrences were in the form of snow.

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radiation total received during April was 7.85 langleys (a rate of 1.57 langleys/minute), which occurred on the 13th. The largest hourly insolation total received during April was 81 langleys, which occurred on the 14th between 1200 and 1300 hours and on the 30th between 1100 and 1200 hours.

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LEVEL I ( $\frac{dT}{dz}$ ) 30 feet to 100 feet

| Stability/Class | Hour | 1  | 2  | 3  | 4  | 5  | 6  | 7 | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24  | No. of Occurrences |
|-----------------|------|----|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|--------------------|
| A:              | 1    | 1  | 1  | 1  | 1  | 1  | 2  | 1 | 11 | 16 | 12 | 6  | 2  | 1  | 2  | 1  | 2  | 3  | 6  | 4  | 2  | 0  | 0  | 1  | 1   | 78                 |
| B:              | 2    | 2  | 1  | 2  | 3  | 2  | 3  | 3 | 9  | 12 | 15 | 19 | 20 | 15 | 18 | 15 | 15 | 16 | 12 | 1  | 2  | 2  | 0  | 1  | 205 |                    |
| C:              | 0    | 0  | 1  | 1  | 0  | 0  | 1  | 0 | 1  | 0  | 1  | 1  | 2  | 5  | 3  | 2  | 8  | 6  | 5  | 3  | 3  | 2  | 2  | 1  | 4   | 52                 |
| D:              | 6    | 3  | 3  | 3  | 4  | 2  | 4  | 8 | 1  | 2  | 4  | 6  | 9  | 7  | 9  | 5  | 6  | 3  | 10 | 11 | 4  | 5  | 5  | 3  | 123 |                    |
| E:              | 6    | 9  | 7  | 5  | 6  | 10 | 7  | 2 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 6  | 12 | 7  | 9  | 7   | 94                 |
| F:              | 15   | 15 | 17 | 18 | 16 | 14 | 14 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 7  | 10 | 14 | 14 | 14  | 168                |

- A: extremely unstable
- B: very unstable
- C: slightly unstable
- D: neutral
- E: slightly stable
- F: extremely stable

LEVEL II ( $\frac{dT}{dz}$ ) 30 feet to 200 feet

| Stability/Class | Hour |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | No. of Occurrences |     |
|-----------------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------|-----|
|                 | 1    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |                    |     |
| A:              | 3    | 3  | 3  | 4  | 2  | 2  | 1  | 10 | 16 | 12 | 6  | 2  | 1  | 2  | 1  | 2  | 3  | 6  | 5  | 2  | 1  | 1  | 1  | 1  | 2                  | 91  |
| B:              | 2    | 2  | 2  | 2  | 4  | 2  | 4  | 10 | 12 | 15 | 19 | 20 | 15 | 17 | 18 | 15 | 15 | 15 | 9  | 3  | 3  | 3  | 3  | 3  | 3                  | 213 |
| C:              | 1    | 0  | 1  | 0  | 1  | 2  | 1  | 1  | 1  | 1  | 1  | 2  | 5  | 4  | 2  | 8  | 6  | 6  | 5  | 3  | 3  | 1  | 1  | 1  | 2                  | 58  |
| D:              | 7    | 6  | 5  | 5  | 3  | 5  | 6  | 5  | 1  | 2  | 4  | 6  | 9  | 7  | 9  | 5  | 6  | 3  | 11 | 11 | 4  | 6  | 5  | 6  | 6                  | 137 |
| E:              | 10   | 10 | 8  | 7  | 13 | 10 | 10 | 4  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 7  | 15 | 12 | 16 | 8  | 8                  | 130 |
| F:              | 7    | 9  | 11 | 12 | 7  | 9  | 8  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 4  | 4  | 4  | 7  | 4  | 9                  | 91  |

the month on an hourly basis. Level I presents the temperature change versus height values ( $\frac{dT}{dZ}$ ) that were considered between 30 feet and 100 feet. Level II indicates the values that were considered between 30 feet and 200 feet.

Using the standard deviation of the horizontal wind ( $\sigma_\theta$ ) method of stability determination, "E" stability was the most common stability classification at the meteorological tower. The stability distributions for the 30-, 100-, and 200-foot levels were similar. The 8-foot level of the tower exhibited higher percentages of the unstable classes because of excessive mechanical turbulence.

The bivane at the 200-foot level of the meteorological tower indicated a pattern of upward vertical motion (negative vertical directions) during April. Upward vertical motion was more pronounced during the daytime hours at the 200-foot level. Upward motions were less pronounced at the 200-foot tower level during the early morning hours. The bivanes at the 30- and 100-foot levels were removed in late March due to instrumentation problems.

The  $\sigma_\theta$  value obtained at the 200-foot level using the bivane compared favorably with the  $\sigma_\theta$  value obtained at that level using the standard wind instrumentation.



VI. DATA PRESENTATION AND SUMMARY

This section includes summaries for various recorded data at the monitoring sites. The data presentations indicate the variability of pollutant concentrations and meteorological parameters with location and time. In addition, the presentations indicate the functional dependence of pollutant concentration with wind direction. All data except suspended particulates (24-hour samples) are sampled once each second, but recorded as five-minute arithmetic averages of the one-second samples. This averaging technique tends to smooth instantaneous maximum values, and is especially evident when comparing wind gusts to local weather bureau data.

Inherent to any data acquisition system is random noise both from the recording instruments and quantization in the analog-to-digital conversion. The lower threshold for all analytical instruments is twice the maximum noise level generated by the instruments. This lower threshold is 5 ppb for all instruments, except for the ozone analyzer, for which it is 0.5 ppb. Therefore, any values appearing in the data presentations that are less than 5 ppb indicate only a trace of pollutant in question and should not be construed to be absolute levels. In addition, the recorded quantity is simply random noise and averages tend toward zero. Thus, when concentrations are below the lower threshold of the analytical instruments they may appear as a zero entry in the data presentation which does not indicate absolute zero concentration.

All pollutant data (except for particulate data) is taken at the monitoring site in integer parts per billion (ppb) but is presented here in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )

assuming standard temperature and pressure of 25°C and 760 mmHg (1013.2 millibars), respectively. The scale factors required to convert  $\mu\text{g}/\text{m}^3$  at standard conditions back to ppb for the various pollutants are given in the following table.

| POLLUTANT            | TO CONVERT $\mu\text{g}/\text{m}^3$ AT 25°C<br>AND 760 mmHg TO ppb MULTIPLY BY |
|----------------------|--|
| $\text{NO}_x$        | .534   |
| NO                   | .534   |
| $\text{NO}_2$        | .534   |
| $\text{SO}_2$        | .384   |
| $\text{H}_2\text{S}$ | .723   |
| THC                  | 1.536  |
| $\text{CH}_4$        | 1.536  |
| CO                   | .877   |
| $\text{O}_3$         | .512   |

The units of the meteorological parameters are given in the table. It should be noted here that inside temperature is monitored and recorded as a functional part of the system but is not presented in this report.

Table III displays the monthly statistics for each monitoring station for the month. To insure statistical significance, and to reduce the possibility of introducing a bias in the presentation, averages are computed only when at least 50 percent of the samples are present, except for relative humidity and temperature, in which case 75 percent of the samples are required. If less than the required samples are present for a particular parameter, that entry will be blank. The number of

samples present for a particular channel is defined as the total possible number of five-minute samples for the averaging time less the computer downtime less the channel downtime less the channel calibration time. The averages in Table III are arithmetic averages with the following exceptions:

- Wind speed and wind direction are computed using a vector averaging technique where the wind speed is treated as the vector magnitude.
- Particulate averages are computed as the geometric mean.

Table IV displays the daily averages. Again, 50 percent of the five-minute samples are required in order to compute an average except for the cases of relative humidity and temperature which require 75 percent. A blank entry indicates an insufficient number of five-minute samples present for that day. Wind speed, wind direction, and particulate averages are computed the same way as described in Table III.

Table V presents the maximum daily five-minute average retained in the data base as well as the time of occurrence. A five-minute maximum average is printed if any samples are present for that day. Therefore, the maximum five-minute average for a channel which experienced considerable downtime or calibration time during the day in question may be misrepresentative of the maximum expected for that channel on that day.

Table VI indicates the five largest averages for various averaging times. The table shows the period of time covered by the average. Maxima are chosen so that time segments



are independent. The maximum averages reported are found using a 'sliding average' technique with the exception of the 24-hour particulate average, which is computed from midnight to midnight. For averaging times less than or equal to three hours, the sliding average is stepped one five-minute sample at a time. For longer averaging times the step size is twelve samples or one hour. For averaging times less than or equal to one hour 100 percent of the five-minute samples must be present to compute an average. Averaging times greater than one hour require 90 percent. Whether or not a sliding average is computed is solely determined by the number of samples present in that averaging time and is independent of daily and monthly averaging criteria.

To demonstrate the functional dependence of recorded parameters upon wind direction, Table VII shows pollutant concentration displayed in a bi-variate distribution with wind direction. The tables display the total number of five-minute samples occurring in each concentration and wind speed class. The mean concentration for all samples occurring in each wind class are also shown. This distribution demonstrates the dependence of high pollutant concentrations upon wind direction. Appendix A shows the stability wind rose diagrams.

The wind speed classifications used in Appendix A are based on the Beaufort wind scale classification system. This is a system of estimating and reporting wind speeds, invented in the early nineteenth century by Admiral Beaufort of the British Navy. It was originally based on the effects of various wind speeds on the amount of canvas that a full-rigged frigate of the period could carry, but has since been modified and modernized. In its present form for international meteorological use it equates: (a) Beaufort force (or Beaufort number); (b) wind speed;

(c) descriptive terms; and (d) visible effects upon land objects or the sea surface. One land adaptation is the NRM wind scale.

The six basic wind speed classifications used in the report are: 1-3 knots, 4-6 knots, 7-10 knots, 11-16 knots, 17-21 knots, and winds of greater than 21 knots. The following table is a complete description of the Beaufort Wind Scale, taken from Physical Climatology, by Helmut Landsberg, 1969.

BEAUFORT WIND SCALE FOR OBSERVATIONS AT LAND STATIONS

| Force | Explanatory Title | Specification for Use   | Corresponding Limits of Wind Speed at 10 meters ab. grd. |         |         |           |         |
|-------|-------------------|---|--|---------|---------|-----------|---------|
|       |                   |   | Mi/hr.   | Knots   | Km/hr.  | M/sec.    | Ft/sec. |
| 0     | Calm.....         | Smoke rises vertically.....   | <1   | <1      | <1      | 0.3       | 1       |
| 1     | Light air.....    | Direction of wind shown by smoke drift, but not by wind vanes.....                              | 1-3  | 1-3     | 1-5     | 0.3-1.5   | 1-5     |
| 2     | Light breeze..... | Wind felt on face:leaves rustle:ordinary vane moved by wind.....                                | 4-7  | 4-6     | 6-11    | 1.6-3.3   | 6-11    |
| 3     | Gentle breeze.... | Leaves and small twigs in constant motion;wind extends light flat.....                          | 8-12   | 7-10    | 12-19   | 3.4-5.4   | 12-19   |
| 4     | Moderate breeze.. | Raises dust and loose paper:small branches are moved.....                                       | 13-18  | 11-16   | 20-28   | 5.5-7.9   | 19-26   |
| 5     | Fresh breeze..... | Small trees in leaf begin to sway:wavelets formed on inland waters.....                         | 19-24  | 17-21   | 29-38   | 8.0-10.7  | 27-35   |
| 6     | Strong breeze.... | Large branches in motion:whistling heard in telegraph wires:umbrellas used with difficulty..... | 25-31  | 22-27   | 39-49   | 10.8-13.8 | 36-45   |
| 7     | High wind... ..   | Whole trees in motion:inconvenience felt when walking against wind.....                         | 32-38  | 28-33   | 50-61   | 13.9-17.1 | 46-56   |
| 8     | Fresh gale.....   | Breaks twigs off trees:generally impedes progress.....  | 39-46  | 34-40   | 62-74   | 17.2-20.7 | 57-68   |
| 9     | Strong gale.....  | Slight structural damage occurs (chimney pots and slates removed).....                          | 47-54  | 41-47   | 75-88   | 20.8-24.4 | 69-80   |
| 10    | Whole gale.....   | Seldom experienced inland:trees uprooted:considerable structural damage occurs...               | 55-63  | 48-55   | 89-102  | 24.5-28.4 | 81-93   |
| 11    | Storm.....        | Very rarely experiences:accompanied by widespread damage.....                                   | 64-72  | 56-63   | 103-117 | 28.5-32.6 | 94-106  |
| 12    | Hurricane.....    | .....   | 73-82  | 64-71   | 118-133 | 32.7-36.9 | 107-121 |
| 13    | .....             | .....   | 83-92  | 72-80   | 134-149 | 37.0-41.4 | 122-136 |
| 14    | .....             | .....   | 93-102   | 81-89   | 150-166 | 41.5-46.1 | 137-151 |
| 15    | .....             | .....   | 104-114  | 90-99   | 167-183 | 46.2-50.9 | 152-166 |
| 16    | .....             | .....   | 115-125  | 100-108 | 184-201 | 51.0-56.0 | 167-183 |
| 17    | .....             | .....   | 126-136  | 109-118 | 202-220 | 56.1-61.2 | 184-201 |

Source: Table 36 (p.119) in R.J. List (1951):Smithsonian Meteorological Tables:Smithsonian Miscell.Coll.Vol. 114.



Table VIII demonstrates the diurnal variation of various recorded parameters. Hourly averages are determined by arithmetically averaging five-minute samples, except for wind direction averages which are computed vectorially assuming unit vector magnitudes. Totals in the diurnal wind direction tables are vector averages of the columns and rows. For all parameters, a blank entry in the diurnal variation table indicates that less than half (i.e., less than 6) of the five-minute samples for that hour are present.

All times given in the data presentation are Mountain Standard Time.

To facilitate comparison of recorded concentrations to ambient air quality standards, the following regulations are presented.

TABLE II  
FEDERAL AND COLORADO STANDARDS

|                         | <u>Primary</u>              | <u>Secondary</u>            | <u>Non-Designated<br/>Area</u> | <u>1973</u>                 | <u>Designated Area</u>      |                             |
|-------------------------|-----------------------------|-----------------------------|--------------------------------|-----------------------------|-----------------------------|-----------------------------|
|                         |                             |                             |                                |                             | <u>1976</u>                 | <u>1980</u>                 |
| <u>Particulate</u>      |                             |                             |                                |                             |                             |                             |
| Annual G. M.            | 75 $\mu\text{g}/\text{m}^3$ | 60 $\mu\text{g}/\text{m}^3$ | 45 $\mu\text{g}/\text{m}^3$    | 70 $\mu\text{g}/\text{m}^3$ | 55 $\mu\text{g}/\text{m}^3$ | 45 $\mu\text{g}/\text{m}^3$ |
| 24 Hr. Max.*            | 260                         | 150                         | 150                            | 200                         | 180                         | 150                         |
| <u>Sulfur Oxides</u>    |                             |                             |                                |                             |                             |                             |
| Annual                  | 80(.03ppm)                  |                             | --                             | 60(.02ppm)                  | 25(.009ppm)                 | 10(.004ppm)                 |
| 24 Hr. Max.*            | 365(.14ppm)                 |                             | 15(.005ppm)                    | 300(.1ppm)                  | 150(.05ppm)                 | 55(.02ppm)                  |
| 3 Hr. Max.*             | --                          | 1300(.5ppm)                 | --                             | --                          | --                          | --                          |
| 1 Hr. Max.**            | --                          | --                          | --                             | 800(.28ppm)                 | 300(.1ppm)                  | --                          |
| <u>Oxidant</u>          |                             |                             |                                |                             |                             |                             |
| 1 Hr. Max.*             | 160(.08ppm)                 | 160                         |                                |                             |                             |                             |
| 8 Hr. Max.*             | --                          | --                          |                                |                             |                             |                             |
| Annual                  | --                          | --                          |                                |                             |                             |                             |
| <u>Hydrocarbons</u>     |                             |                             |                                |                             |                             |                             |
| 3 Hr. Max.*             | 160(.24ppm)                 | 160                         |                                |                             |                             |                             |
| 6-9 a.m.                |                             |                             |                                |                             |                             |                             |
| <u>Carbon Monoxide</u>  |                             |                             |                                |                             |                             |                             |
| Max. 8 Hrs.*            | 10000(9ppm)                 | 10000                       |                                |                             |                             |                             |
| Max. 1 Hr.*             | 40000(35ppm)                | 40000                       |                                |                             |                             |                             |
| <u>Nitrogen Dioxide</u> |                             |                             |                                |                             |                             |                             |
| Annual                  | 100(.05ppm)                 | 100                         |                                |                             |                             |                             |

Units are micrograms per cubic meter and ppm in parenthesis.

\*Not to be exceeded more than once per year.

\*\*Not to be exceeded more than once per month.

TABLE III  
AVERAGES FOR APRIL 1 THRU 30

TABLE III. AVERAGES FOR APR 1 THRU 30

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

| NITROGEN OXIDES(NOX) |        | NITRIC OXIDE(NO) |       | NITROGEN DIOXIDE(NO2)    |     |
|----------------------|--------|------------------|-------|--------------------------|-----|
| SITE                 | 023    | 023              | 023   | 023                      | 023 |
|                      | 2.5    | 1.3              | 1.1   | 1.1                      |     |
| SULFUR DIOXIDE(SO2)  |        | PYRANOMETER      |       | HYDROGEN SULFIDE         |     |
| SITE                 | 023    | 023              | 023   | 023                      | 023 |
|                      | .1     | 12864.5          | .2    |                          |     |
| TOTAL HYDROCARBONS   |        | METHANE          |       | NON-METHANE HYDROCARBONS |     |
| SITE                 | 023    | 023              | 023   | 023                      | 023 |
|                      | 1203.5 | 911.0            | 292.3 |                          |     |
| CARBON MONOXIDE      |        | OZONE            |       | BAROMETRIC PRESSURE      |     |
| SITE                 | 023    | 023              | 023   | 023                      | 023 |
|                      |        | 80.6             | 789.3 |                          |     |
| TOTAL PRECIPITATION  |        | PARTICULATE      |       |                          |     |
| SITE                 | 023    | 023              | 023   |                          |     |
|                      | .50    | 6.4              |       |                          |     |

TABLE III. AVERAGES FOR APR 1 THRU 30

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED

|          |         |          |          |          |
|----------|---------|----------|----------|----------|
| SITE 023 | ( 8-FT) | ( 30-FT) | (100-FT) | (200-FT) |
|          | 1.5     | 2.0      | 2.0      | 2.4      |

WIND DIRECTION

|          |         |          |          |          |
|----------|---------|----------|----------|----------|
| SITE 023 | ( 8-FT) | ( 30-FT) | (100-FT) | (200-FT) |
|          | 241.4   | 231.7    | 231.5    | 244.4    |

RELATIVE HUMIDITY

|          |         |          |          |          |
|----------|---------|----------|----------|----------|
| SITE 023 | ( 8-FT) | ( 30-FT) | (100-FT) | (200-FT) |
|          | 67.2    | 66.7     | 68.4     | 66.4     |

TEMPERATURE

|          |         |          |          |          |
|----------|---------|----------|----------|----------|
| SITE 023 | ( 8-FT) | ( 30-FT) | (100-FT) | (200-FT) |
|          | 42.0    | 43.4     | 43.0     | 42.3     |



TABLE IV  
DAILY AVERAGES FOR APRIL 1 THRU 30

TABLE IV. DAILY AVERAGES FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NITROGEN DIOXIDE (NO2)

NITRIC OXIDE (NO)

NITROGEN OXIDES (NOX)

| DATE | SITE | 023 | 023  | 023  |
|------|------|-----|------|------|
| 4/1  | 3    | .3  | .0   | .3   |
| 4/2  | .8   | .2  | .2   | .7   |
| 4/3  | .1   | .1  | .1   | .1   |
| 4/4  | .1   | .1  | .1   | .0   |
| 4/5  | 1.4  | .1  | .1   | 1.3  |
| 4/6  | 2.8  | .1  | .1   | 2.8  |
| 4/7  | .6   | .6  | .6   | .0   |
| 4/8  | .6   | .6  | .6   | .0   |
| 4/9  | .1   | .0  | .0   | .0   |
| 4/10 | .0   | .0  | .0   | .0   |
| 4/11 | 1.3  | 1.2 | .1   | .1   |
| 4/12 | 1.6  | 1.4 | .1   | .1   |
| 4/13 | .5   | .5  | .1   | .1   |
| 4/14 | .1   | .1  | .0   | .0   |
| 4/15 | 5.6  | 5.5 | .1   | .1   |
| 4/16 | 8.5  | 8.3 | .2   | .2   |
| 4/17 | 4.7  | 4.0 | .7   | .7   |
| 4/18 | 2.6  | 1.4 | 1.3  | 1.3  |
| 4/19 | 2.9  | 1.8 | 1.1  | 1.1  |
| 4/20 | 2.1  | .6  | 1.5  | 1.5  |
| 4/21 | 5.0  | .3  | 4.7  | 4.7  |
| 4/22 | 1.2  | .0  | 1.2  | 1.2  |
| 4/23 | 1.3  | .0  | 1.3  | 1.3  |
| 4/24 | .9   | .0  | .9   | .9   |
| 4/25 | 3.3  | 2.7 | .6   | .6   |
| 4/26 | 12.5 | .0  | 12.5 | 12.5 |
| 4/27 | 2.4  | .4  | 2.0  | 2.0  |
| 4/28 | 9.0  | 7.6 | 1.4  | 1.4  |
| 4/29 | 2.2  | 1.8 | .4   | .4   |
| 4/30 | .0   | .0  | .0   | .0   |

TABLE IV. DAILY AVERAGES FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

HYDROGEN SULFIDE

PYRANOMETER

SULFUR DIOXIDE (SO2)

| DATE | SITE | 023   | 023 | 023 |
|------|------|-------|-----|-----|
| 4/ 1 | .0   | 239.6 | .3  |     |
| 4/ 2 | .0   | 197.3 | .1  |     |
| 4/ 3 | .0   | 437.9 | .3  |     |
| 4/ 4 | .0   | 449.0 | .5  |     |
| 4/ 5 | .0   | 313.9 | .4  |     |
| 4/ 6 | .0   | 576.5 | .0  |     |
| 4/ 7 | .0   | 479.3 | .0  |     |
| 4/ 8 | .0   | 580.0 | .0  |     |
| 4/ 9 | .0   | 596.1 | .0  |     |
| 4/10 | .0   | 599.2 | .0  |     |
| 4/11 | .0   | 326.4 | .0  |     |
| 4/12 | .0   | 166.5 | .1  |     |
| 4/13 | .0   | 369.9 | 1.1 |     |
| 4/14 | .0   | 570.3 | 1.7 |     |
| 4/15 | .1   | 110.4 | .6  |     |
| 4/16 | .0   | 410.8 | .0  |     |
| 4/17 | .0   | 534.8 | .0  |     |
| 4/18 | .0   | 481.6 | .0  |     |
| 4/19 | .0   | 89.5  | .0  |     |
| 4/20 | .0   | 467.8 | 1.8 |     |
| 4/21 | .0   | 447.3 | .0  |     |
| 4/22 | .1   | 593.7 | .0  |     |
| 4/23 | .0   | 653.1 | .0  |     |
| 4/24 | 1.1  | 596.8 | .0  |     |
| 4/25 | .1   | 508.5 | .0  |     |
| 4/26 | .0   | 420.1 | .0  |     |
| 4/27 | .0   | 203.9 | .0  |     |
| 4/28 | .0   | 311.0 | .0  |     |
| 4/29 | .0   | 540.5 | .0  |     |
| 4/30 | .4   | 592.8 | .0  |     |

TABLE IV. DAILY AVERAGES FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

|      |      | TOTAL HYDROCARBONS |        | METHANE |     | NON-METHANE HYDROCARBONS |     |
|------|------|--------------------|--------|---------|-----|--------------------------|-----|
| DATE | SITE | 023                | 023    | 023     | 023 | 023                      | 023 |
| 4/ 1 |      | 1100.5             | 876.8  |         |     | 223.7                    |     |
| 4/ 2 |      | 1229.0             | 910.9  |         |     | 318.1                    |     |
| 4/ 3 |      | 1289.6             | 950.3  |         |     | 339.3                    |     |
| 4/ 4 |      | 1206.1             | 925.3  |         |     | 280.8                    |     |
| 4/ 5 |      | 1203.2             | 909.5  |         |     | 293.7                    |     |
| 4/ 6 |      | 1197.5             | 865.2  |         |     | 332.3                    |     |
| 4/ 7 |      | 1281.7             | 865.4  |         |     | 416.3                    |     |
| 4/ 8 |      | 1264.6             | 863.6  |         |     | 401.0                    |     |
| 4/ 9 |      | 1265.0             | 862.3  |         |     | 402.7                    |     |
| 4/10 |      | 1248.8             | 858.7  |         |     | 390.1                    |     |
| 4/11 |      | 1256.8             | 870.6  |         |     | 386.1                    |     |
| 4/12 |      | 1094.8             | 873.0  |         |     | 222.3                    |     |
| 4/13 |      | 1037.7             | 862.5  |         |     | 175.2                    |     |
| 4/14 |      | 1054.8             | 908.9  |         |     | 145.9                    |     |
| 4/15 |      | 1125.7             | 1016.0 |         |     | 109.7                    |     |
| 4/16 |      | 1154.3             | 1045.0 |         |     | 109.3                    |     |
| 4/17 |      | 952.3              | 934.3  |         |     | 18.0                     |     |
| 4/18 |      | 1112.9             | 875.4  |         |     | 233.1                    |     |
| 4/19 |      | 1375.9             | 877.2  |         |     | 501.9                    |     |
| 4/20 |      | 1307.9             | 900.3  |         |     | 407.6                    |     |
| 4/21 |      | 1332.1             | 956.9  |         |     | 375.2                    |     |
| 4/22 |      | 1295.1             | 973.0  |         |     | 322.1                    |     |
| 4/23 |      | 1330.5             | 957.0  |         |     | 373.5                    |     |
| 4/24 |      | 1295.2             | 967.2  |         |     | 328.0                    |     |
| 4/25 |      | 1249.1             | 960.5  |         |     | 288.6                    |     |
| 4/26 |      | 1287.3             | 952.3  |         |     | 335.0                    |     |
| 4/27 |      | 1155.7             | 907.8  |         |     | 247.9                    |     |
| 4/28 |      | 1083.3             | 871.5  |         |     | 211.8                    |     |
| 4/29 |      | 1141.2             | 857.0  |         |     | 284.2                    |     |
| 4/30 |      | 1187.3             | 867.6  |         |     | 319.7                    |     |

TABLE IV. DAILY AVERAGES FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

CARBON MONOXIDE

OZONE

BAROMETRIC PRESSURE

| DATE | SITE  | 023  | 023   | 023 |
|------|-------|------|-------|-----|
| 4/1  | 384.0 | 95.8 | 777.3 |     |
| 4/2  |       | 86.6 | 778.6 |     |
| 4/3  |       | 86.2 | 785.5 |     |
| 4/4  |       | 74.0 | 790.5 |     |
| 4/5  |       | 65.4 | 794.1 |     |
| 4/6  | 388.3 | 73.7 | 796.2 |     |
| 4/7  |       | 74.9 | 796.2 |     |
| 4/8  |       | 81.1 | 794.2 |     |
| 4/9  |       | 90.6 | 788.2 |     |
| 4/10 |       | 86.7 | 786.4 |     |
| 4/11 |       | 74.6 | 786.5 |     |
| 4/12 |       | 65.6 | 791.3 |     |
| 4/13 | 385.2 | 79.2 | 787.0 |     |
| 4/14 | 432.2 | 94.0 | 782.7 |     |
| 4/15 | 525.0 | 63.2 | 786.7 |     |
| 4/16 | 521.2 | 61.9 | 789.8 |     |
| 4/17 | 425.0 | 75.7 | 787.8 |     |
| 4/18 | 378.1 | 75.0 | 785.3 |     |
| 4/19 | 473.9 | 75.7 | 786.0 |     |
| 4/20 | 585.4 | 74.0 | 786.9 |     |
| 4/21 | 564.0 | 79.7 | 792.2 |     |
| 4/22 |       | 83.4 | 795.4 |     |
| 4/23 | 498.3 | 85.7 | 796.8 |     |
| 4/24 | 439.8 | 87.9 | 796.0 |     |
| 4/25 |       | 88.4 | 792.1 |     |
| 4/26 |       | 92.9 | 789.2 |     |
| 4/27 |       | 88.6 | 788.7 |     |
| 4/28 |       | 81.3 | 790.6 |     |
| 4/29 |       | 83.5 | 791.1 |     |
| 4/30 |       | 92.7 | 788.8 |     |



TABLE IV. DAILY AVERAGES FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TOTAL PRECIPITATION PARTICULATE

| DATE | SITE | 023 | 023  |
|------|------|-----|------|
| 4/ 1 |      |     |      |
| 4/ 2 |      | .05 | 1.0  |
| 4/ 3 |      |     | 1.0  |
| 4/ 4 |      |     | 5.0  |
| 4/ 5 |      |     | 4.0  |
| 4/ 6 |      |     | 4.0  |
| 4/ 7 |      |     | 4.0  |
| 4/ 8 |      |     | 4.0  |
| 4/ 9 |      |     | 5.0  |
| 4/10 |      |     | 34.0 |
| 4/11 |      | .08 | 25.0 |
| 4/12 |      | .12 | 7.0  |
| 4/13 |      | .06 |      |
| 4/14 |      |     | 6.0  |
| 4/15 |      | .13 | 6.0  |
| 4/16 |      |     | 5.0  |
| 4/17 |      |     | 1.0  |
| 4/18 |      |     | 5.0  |
| 4/19 |      | .04 | 16.0 |
| 4/20 |      |     | 4.0  |
| 4/21 |      |     | 9.0  |
| 4/22 |      |     | 7.0  |
| 4/23 |      |     | 14.0 |
| 4/24 |      |     | 3.0  |
| 4/25 |      |     |      |
| 4/26 |      |     |      |
| 4/27 |      | .02 | 36.0 |
| 4/28 |      |     | 32.0 |
| 4/29 |      |     | 10.0 |
| 4/30 |      |     | 13.0 |

TABLE IV. DAILY AVERAGES FOR APR 1 THRU 30

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED

| SITE 023 |         | WIND SPEED |          |          |
|----------|---------|------------|----------|----------|
| DATE     | ( 8-FT) | ( 30-FT)   | (100-FT) | (200-FT) |
| 4/ 1     | 3.4     | 4.7        | 5.3      | 5.8      |
| 4/ 2     | 1.9     | 2.5        | 2.6      | 3.0      |
| 4/ 3     | 4.0     | 5.3        | 6.3      | 7.2      |
| 4/ 4     | 1.2     | 1.3        | 1.6      | 2.3      |
| 4/ 5     | .5      | .4         | .6       | 1.0      |
| 4/ 6     | 1.9     | 2.6        | 3.2      | 3.4      |
| 4/ 7     | 1.4     | 1.9        | 1.7      | 1.8      |
| 4/ 8     | 5.4     | 7.2        | 8.8      | 9.9      |
| 4/ 9     | 4.7     | 11.8       | 13.8     | 15.4     |
| 4/10     | 6.5     | 8.7        | 10.0     | 11.0     |
| 4/11     | 3.3     | 4.6        | 5.4      | 6.2      |
| 4/12     | 1.9     | 2.9        | 3.7      | 4.3      |
| 4/13     | 3.5     | 4.9        | 5.4      | 5.6      |
| 4/14     | 3.5     | 4.5        | 5.2      | 5.7      |
| 4/15     | 3.7     | 5.4        | 6.4      | 7.0      |
| 4/16     | 1.7     | 2.4        | 2.8      | 3.0      |
| 4/17     | 1.3     | 1.9        | 2.5      | 2.6      |
| 4/18     | 3.7     | 5.1        | 5.8      | 6.5      |
| 4/19     | 3.9     | 5.0        | 6.0      | 6.4      |
| 4/20     | 3.0     | 4.0        | 4.8      | 6.0      |
| 4/21     | .3      | .6         | .7       | 1.3      |
| 4/22     | 1.2     | 1.4        | 1.9      | 2.2      |
| 4/23     | 1.3     | 1.7        | 2.4      | 2.4      |
| 4/24     | 2.2     | 2.9        | 4.1      | 4.8      |
| 4/25     | 1.6     | 2.0        | 2.1      | 2.7      |
| 4/26     | 3.1     | 4.2        | 5.5      | 6.7      |
| 4/27     | 3.2     | 4.8        | 5.5      | 5.1      |
| 4/28     | 4.1     | 5.6        | 6.3      | 6.8      |
| 4/29     | .8      | .9         | .9       | 1.8      |
| 4/30     | 3.6     | 5.3        | 7.1      | 8.2      |

TABLE IV. DAILY AVERAGES FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND DIRECTION

| SITE 023 | DATE  | ( 8-FT) | ( 30-FT) | (100-FT) | (200-FT) |
|----------|-------|---------|----------|----------|----------|
| 4/ 1     | 194.1 | 184.7   | 185.4    | 197.8    | 197.8    |
| 4/ 2     | 263.1 | 254.2   | 250.8    | 251.4    | 251.4    |
| 4/ 3     | 345.0 | 335.1   | 341.2    | 350.1    | 350.1    |
| 4/ 4     | 342.7 | 333.5   | 334.6    | 336.6    | 336.6    |
| 4/ 5     | 331.5 | 324.1   | 1.2      | 359.0    | 359.0    |
| 4/ 6     | 197.9 | 188.2   | 178.8    | 190.3    | 190.3    |
| 4/ 7     | 209.5 | 195.7   | 196.7    | 220.5    | 220.5    |
| 4/ 8     | 200.8 | 192.1   | 190.3    | 198.6    | 198.6    |
| 4/ 9     | 187.4 | 178.8   | 177.0    | 185.5    | 185.5    |
| 4/10     | 214.7 | 209.0   | 209.0    | 217.5    | 217.5    |
| 4/11     | 255.8 | 249.2   | 253.3    | 263.7    | 263.7    |
| 4/12     | 291.4 | 280.0   | 290.8    | 302.3    | 302.3    |
| 4/13     | 221.4 | 211.6   | 211.2    | 221.4    | 221.4    |
| 4/14     | 236.1 | 229.2   | 229.3    | 236.5    | 236.5    |
| 4/15     | 309.3 | 300.7   | 307.9    | 318.2    | 318.2    |
| 4/16     | 314.1 | 306.3   | 320.9    | 334.4    | 334.4    |
| 4/17     | 349.8 | 350.1   | 4.8      | 8.1      | 8.1      |
| 4/18     | 285.9 | 282.3   | 290.2    | 299.1    | 299.1    |
| 4/19     | 317.7 | 309.6   | 315.2    | 323.1    | 323.1    |
| 4/20     | 351.6 | 337.4   | 354.9    | 352.8    | 352.8    |
| 4/21     | 181.9 | 172.8   | 163.0    | 201.4    | 201.4    |
| 4/22     | 319.4 | 325.1   | 349.4    | 356.3    | 356.3    |
| 4/23     | 340.8 | 341.9   | 357.0    | 10.8     | 10.8     |
| 4/24     | 351.8 | 344.8   | 352.3    | 359.6    | 359.6    |
| 4/25     | 305.0 | 303.5   | 311.0    | 310.9    | 310.9    |
| 4/26     | 202.0 | 192.4   | 195.8    | 214.4    | 214.4    |
| 4/27     | 152.7 | 141.8   | 139.2    | 150.4    | 150.4    |
| 4/28     | 193.7 | 186.2   | 185.8    | 196.4    | 196.4    |
| 4/29     | 291.8 | 256.3   | 230.5    | 247.2    | 247.2    |
| 4/30     | 191.4 | 182.5   | 182.9    | 195.0    | 195.0    |

TABLE IV. DAILY AVERAGES FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

RELATIVE HUMIDITY

| SITE 023 | DATE | ( 8-FT) | ( 30-FT) | (100-FT) | (200-FT) |
|----------|------|---------|----------|----------|----------|
|          | 4/ 1 | 86.0    | 85.8     | 89.0     | 84.1     |
|          | 4/ 2 | 94.2    | 91.8     | 99.8     | 94.5     |
|          | 4/ 3 | 89.8    | 88.2     | 92.7     | 89.8     |
|          | 4/ 4 | 80.9    | 80.7     | 82.6     | 79.6     |
|          | 4/ 5 | 76.0    | 74.9     | 77.0     | 74.9     |
|          | 4/ 6 | 56.5    | 55.5     | 57.2     | 55.1     |
|          | 4/ 7 | 49.6    | 49.1     | 49.2     | 47.1     |
|          | 4/ 8 | 47.1    | 45.0     | 46.2     | 45.0     |
|          | 4/ 9 | 39.2    | 40.7     | 41.5     | 40.6     |
|          | 4/10 | 38.5    | 40.5     | 41.3     | 40.4     |
|          | 4/11 | 73.3    | 73.9     | 75.3     | 72.3     |
|          | 4/12 | 96.9    | 95.5     | 98.0     | 95.4     |
|          | 4/13 | 84.7    | 81.8     | 83.9     | 79.0     |
|          | 4/14 | 59.6    | 58.0     | 59.9     | 59.4     |
|          | 4/15 | 97.0    | 96.6     | 97.0     | 96.5     |
|          | 4/16 | 91.0    | 89.5     | 91.0     | 89.1     |
|          | 4/17 | 68.4    | 64.3     | 67.3     | 65.4     |
|          | 4/18 | 76.6    | 78.1     | 79.1     | 78.8     |
|          | 4/19 | 99.5    | 100.0    | 100.0    | 98.3     |
|          | 4/20 | 74.2    | 73.3     | 75.5     | 72.1     |
|          | 4/21 | 47.6    | 47.3     | 49.0     | 47.1     |
|          | 4/22 | 40.8    | 42.0     | 42.6     | 41.0     |
|          | 4/23 | 41.8    | 43.1     | 44.0     | 43.2     |
|          | 4/24 | 46.0    | 46.2     | 47.0     | 46.6     |
|          | 4/25 | 45.4    | 45.4     | 46.7     | 46.3     |
|          | 4/26 | 47.1    | 47.9     | 49.2     | 48.1     |
|          | 4/27 | 63.4    | 62.6     | 64.2     | 62.4     |
|          | 4/28 | 83.7    | 81.2     | 82.9     | 81.0     |
|          | 4/29 | 66.4    | 66.8     | 68.3     | 66.1     |
|          | 4/30 | 52.8    | 52.2     | 53.0     | 52.4     |



TABLE IV. DAILY AVERAGES FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TEMPERATURE

| SITE 023 |         |          |          |          |  |
|----------|---------|----------|----------|----------|--|
| DATE     | ( 8-FT) | ( 30-FT) | (100-FT) | (200-FT) |  |
| 4/ 1     | 26.3    | 26.1     | 25.4     | 23.8     |  |
| 4/ 2     | 23.5    | 23.2     | 22.5     | 20.8     |  |
| 4/ 3     | 20.5    | 20.1     | 19.8     | 18.0     |  |
| 4/ 4     | 31.5    | 32.1     | 31.6     | 30.3     |  |
| 4/ 5     | 37.3    | 37.9     | 37.5     | 37.0     |  |
| 4/ 6     | 42.4    | 44.1     | 44.2     | 43.9     |  |
| 4/ 7     | 46.3    | 48.6     | 48.9     | 48.7     |  |
| 4/ 8     | 49.9    | 52.4     | 53.1     | 52.9     |  |
| 4/ 9     | 53.9    | 56.3     | 56.0     | 55.6     |  |
| 4/10     | 52.8    | 55.1     | 54.7     | 54.3     |  |
|          |         |          |          |          |  |
| 4/11     | 40.6    | 41.6     | 41.1     | 40.2     |  |
| 4/12     | 34.4    | 35.3     | 34.6     | 33.3     |  |
| 4/13     | 35.7    | 37.0     | 36.5     | 36.0     |  |
| 4/14     | 43.1    | 44.1     | 43.5     | 42.9     |  |
| 4/15     | 31.4    | 31.3     | 30.3     | 29.2     |  |
| 4/16     | 39.1    | 40.3     | 39.6     | 38.6     |  |
| 4/17     | 46.8    | 48.6     | 48.3     | 48.0     |  |
| 4/18     | 42.5    | 43.4     | 42.6     | 41.7     |  |
| 4/19     | 29.4    | 29.2     | 28.3     | 27.1     |  |
| 4/20     | 35.1    | 36.0     | 35.4     | 34.4     |  |
|          |         |          |          |          |  |
| 4/21     | 41.9    | 43.8     | 43.8     | 43.4     |  |
| 4/22     | 48.5    | 51.0     | 51.0     | 50.8     |  |
| 4/23     | 51.1    | 53.4     | 53.0     | 52.8     |  |
| 4/24     | 51.3    | 53.6     | 53.2     | 52.7     |  |
| 4/25     | 51.1    | 53.4     | 53.6     | 53.2     |  |
| 4/26     | 53.4    | 55.3     | 55.5     | 55.1     |  |
| 4/27     | 48.9    | 51.2     | 51.4     | 50.9     |  |
| 4/28     | 45.2    | 47.2     | 46.9     | 46.1     |  |
| 4/29     | 50.3    | 52.4     | 52.2     | 51.7     |  |
| 4/30     | 55.5    | 57.7     | 57.6     | 57.0     |  |



TABLE V  
MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF  
OCCURRENCE FOR APRIL 1 THRU 30

LABORATORY

CORPORATION V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NITROGEN OXIDES(NOX)

SITE 023

DATE

|      |             |
|------|-------------|
| 4/1  | 74.9( 6:00) |
| 4/2  | 91.7(23:05) |
| 4/3  | 11.2(10:35) |
| 4/4  | 5.6(17:30)  |
| 4/5  | 9.4(22:45)  |
| 4/6  | 16.9( 4:10) |
| 4/7  | 7.5( 9:45)  |
| 4/8  | 13.1( 4:00) |
| 4/9  | 7.5(16:40)  |
| 4/10 | 1.9( 2:40)  |
| 4/11 | 9.4(20:40)  |
| 4/12 | 13.1( 8:20) |
| 4/13 | 9.4(18:50)  |
| 4/14 | 3.7( 6:50)  |
| 4/15 | 18.7(14:40) |
| 4/16 | 18.7(15:15) |
| 4/17 | 28.1(23:45) |
| 4/18 | 54.3( 7:15) |
| 4/19 | 16.9(20:15) |
| 4/20 | 20.6(20:50) |
| 4/21 | 50.6( 4:30) |
| 4/22 | 16.9( 9:05) |
| 4/23 | 9.4( 4:35)  |
| 4/24 | 22.5( 5:55) |
| 4/25 | 16.9( 8:50) |
| 4/26 | 37.4( 7:00) |
| 4/27 | 15.0( 0:05) |
| 4/28 | 18.7(16:50) |
| 4/29 | 16.9( 0:00) |
| 4/30 | .0( 0:00)   |

RECEIVED

CORPORATION V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NITRIC OXIDE(NO)

| DATE | SITE | 023 |             |
|------|------|-----|-------------|
| 4/ 1 |      |     | 3.7(14:35)  |
| 4/ 2 |      |     | 26.2(23:05) |
| 4/ 3 |      |     | 11.2(10:35) |
| 4/ 4 |      |     | 5.6(17:30)  |
| 4/ 5 |      |     | 3.7(22:35)  |
| 4/ 6 |      |     | 3.7( 2:05)  |
| 4/ 7 |      |     | 7.5( 9:45)  |
| 4/ 8 |      |     | 13.1( 4:00) |
| 4/ 9 |      |     | 3.7(23:50)  |
| 4/10 |      |     | 1.9( 2:40)  |
| 4/11 |      |     | 9.4(20:40)  |
| 4/12 |      |     | 7.5( 4:00)  |
| 4/13 |      |     | 5.6( 0:50)  |
| 4/14 |      |     | 3.7( 6:50)  |
| 4/15 |      |     | 18.7(14:40) |
| 4/16 |      |     | 18.7(15:15) |
| 4/17 |      |     | 15.0( 0:55) |
| 4/18 |      |     | 28.1( 7:15) |
| 4/19 |      |     | 9.4( 5:30)  |
| 4/20 |      |     | 9.4( 4:10)  |
| 4/21 |      |     | 13.1( 8:20) |
| 4/22 |      |     | .0( 9:05)   |
| 4/23 |      |     | .0( 0:00)   |
| 4/24 |      |     | .0( 0:00)   |
| 4/25 |      |     | 15.0( 8:55) |
| 4/26 |      |     | 3.7( 1:40)  |
| 4/27 |      |     | 7.5( 3:30)  |
| 4/28 |      |     | 15.0(12:25) |
| 4/29 |      |     | 15.0( 0:20) |
| 4/30 |      |     | .0( 0:00)   |

# LAKE MEAD COMPARISON

TABLE V. MAXIMUM FIVE MINUTE AVERAGE AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

## NITROGEN DIOXIDE(NO2)

SITE 023

DATE

|      |             |
|------|-------------|
| 4/ 1 | 74.9( 6:00) |
| 4/ 2 | 65.5(23:05) |
| 4/ 3 | 9.4( 3:30)  |
| 4/ 4 | .0( 0:00)   |
| 4/ 5 | 9.4(22:45)  |
| 4/ 6 | 16.9( 4:10) |
| 4/ 7 | .0( 0:00)   |
| 4/ 8 | 7.5(14:45)  |
| 4/ 9 | 7.5(16:40)  |
| 4/10 | 1.9( 4:00)  |
| 4/11 | 7.5(20:55)  |
| 4/12 | 7.5( 7:40)  |
| 4/13 | 9.4(18:50)  |
| 4/14 | .0( 0:00)   |
| 4/15 | 7.5(13:30)  |
| 4/16 | 7.5( 2:15)  |
| 4/17 | 22.5(23:45) |
| 4/18 | 26.2( 7:15) |
| 4/19 | 11.2(20:15) |
| 4/20 | 20.6(20:50) |
| 4/21 | 50.6( 4:30) |
| 4/22 | 16.9( 9:05) |
| 4/23 | 9.4( 4:35)  |
| 4/24 | 22.5( 5:55) |
| 4/25 | 7.5(13:10)  |
| 4/26 | 37.4( 7:00) |
| 4/27 | 15.0( 0:05) |
| 4/28 | 3.7(12:10)  |
| 4/29 | 3.7( 0:00)  |
| 4/30 | .0( 0:00)   |

LEADERSHIP

CORPORATION V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

SULFUR DIOXIDE (SO2)

SITE 023

DATE

|      |             |
|------|-------------|
| 4/ 1 | .0( 0:00)   |
| 4/ 2 | .0( 0:00)   |
| 4/ 3 | 2.6(14:55)  |
| 4/ 4 | 2.6(12:35)  |
| 4/ 5 | .0( 0:00)   |
| 4/ 6 | .0( 0:00)   |
| 4/ 7 | .0( 0:00)   |
| 4/ 8 | 2.6(13:50)  |
| 4/ 9 | .0( 0:00)   |
| 4/10 | 2.6( 3:10)  |
| 4/11 | 2.6(10:40)  |
| 4/12 | 2.6( 6:15)  |
| 4/13 | .0( 0:00)   |
| 4/14 | .0( 0:00)   |
| 4/15 | 2.6(10:05)  |
| 4/16 | 2.6(14:20)  |
| 4/17 | 2.6( 5:35)  |
| 4/18 | .0( 0:00)   |
| 4/19 | .0( 0:00)   |
| 4/20 | .0( 0:00)   |
| 4/21 | .0( 0:00)   |
| 4/22 | 13.0(11:30) |
| 4/23 | 2.6(11:20)  |
| 4/24 | 5.2(11:15)  |
| 4/25 | 2.6( 0:25)  |
| 4/26 | .0( 0:00)   |
| 4/27 | .0( 0:00)   |
| 4/28 | .0( 0:00)   |
| 4/29 | .0( 0:00)   |
| 4/30 | 2.6( 5:40)  |



12-11-1946

TABLE V. MAXIMUM FIVE MINUTE AVERAGE AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

PYRANOMETER

SITE 023

DATE

|      |             |
|------|-------------|
| 4/ 1 | 5.15(10:20) |
| 4/ 2 | 5.20(10:25) |
| 4/ 3 | 7.10(10:55) |
| 4/ 4 | 6.55(12:40) |
| 4/ 5 | 7.70(11:50) |
| 4/ 6 | 6.30(11:50) |
| 4/ 7 | 7.35(12:40) |
| 4/ 8 | 6.45(12:15) |
| 4/ 9 | 6.55(12:15) |
| 4/10 | 6.55(12:00) |
| 4/11 | 7.55(11:40) |
| 4/12 | 5.60(12:40) |
| 4/13 | 7.85(12:30) |
| 4/14 | 7.35(13:40) |
| 4/15 | 1.90(13:55) |
| 4/16 | 7.20(12:55) |
| 4/17 | 6.55(12:00) |
| 4/18 | 7.75(13:00) |
| 4/19 | 1.55(10:40) |
| 4/20 | 7.80(12:05) |
| 4/21 | 6.65(12:30) |
| 4/22 | 6.65(12:10) |
| 4/23 | 6.90(12:05) |
| 4/24 | 7.15(12:25) |
| 4/25 | 7.15(13:35) |
| 4/26 | 7.55(11:00) |
| 4/27 | 4.90(14:30) |
| 4/28 | 6.35(13:20) |
| 4/29 | 7.40(12:15) |
| 4/30 | 7.15(11:45) |

OPERATION V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
 (UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

## HYDROGEN SULFIDE

| DATE | SITE        | 023 |
|------|-------------|-----|
| 4/ 1 | 2.8(13:15)  |     |
| 4/ 2 | 1.4(22:20)  |     |
| 4/ 3 | 1.4( 0:20)  |     |
| 4/ 4 | 8.3(14:05)  |     |
| 4/ 5 | 2.8( 8:25)  |     |
| 4/ 6 | 1.4(17:00)  |     |
| 4/ 7 | .0( 0:00)   |     |
| 4/ 8 | .0( 0:00)   |     |
| 4/ 9 | .0( 0:00)   |     |
| 4/10 | .0( 0:00)   |     |
| 4/11 | .0( 0:00)   |     |
| 4/12 | 1.4(11:45)  |     |
| 4/13 | 5.5(23:25)  |     |
| 4/14 | 5.5( 8:15)  |     |
| 4/15 | 2.8( 0:15)  |     |
| 4/16 | .0( 0:00)   |     |
| 4/17 | 1.4( 8:40)  |     |
| 4/18 | 1.4( 8:20)  |     |
| 4/19 | 1.4( 1:50)  |     |
| 4/20 | 12.5(10:35) |     |
| 4/21 | .0( 0:00)   |     |
| 4/22 | 12.5(11:30) |     |
| 4/23 | .0( 0:00)   |     |
| 4/24 | .0( 0:00)   |     |
| 4/25 | .0( 0:00)   |     |
| 4/26 | .0( 0:00)   |     |
| 4/27 | .0( 0:00)   |     |
| 4/28 | .0( 0:00)   |     |
| 4/29 | .0( 0:00)   |     |
| 4/30 | .0( 0:00)   |     |

# REPORT

TABLE V. MAXIMUM FIVE MINUTE AVERAGE AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
 (UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

## TOTAL HYDROCARBONS

SITE 023

DATE

|      |               |
|------|---------------|
| 4/1  | 1259.5(18:00) |
| 4/2  | 1425.5(23:45) |
| 4/3  | 1522.6( 0:00) |
| 4/4  | 1342.2(10:45) |
| 4/5  | 1370.8(14:30) |
| 4/6  | 1301.2(11:45) |
| 4/7  | 1356.5(16:50) |
| 4/8  | 1357.8( 9:20) |
| 4/9  | 1331.1( 8:40) |
| 4/10 | 1644.4(13:45) |
| 4/11 | 1378.7( 8:25) |
| 4/12 | 1421.6(10:40) |
| 4/13 | 1251.7( 7:45) |
| 4/14 | 2539.8(15:40) |
| 4/15 | 2602.3(14:40) |
| 4/16 | 1332.4( 8:20) |
| 4/17 | 1267.9( 8:15) |
| 4/18 | 2302.7(14:45) |
| 4/19 | 1572.7( 6:30) |
| 4/20 | 1525.2(20:20) |
| 4/21 | 1682.8( 7:40) |
| 4/22 | 1919.6(16:05) |
| 4/23 | 1499.8(10:20) |
| 4/24 | 1383.9( 9:45) |
| 4/25 | 1340.9( 6:40) |
| 4/26 | 1386.5(13:25) |
| 4/27 | 1326.6( 7:55) |
| 4/28 | 1155.9(19:00) |
| 4/29 | 1230.8(16:20) |
| 4/30 | 1669.8(13:45) |

12-11-1962

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

METHANE

SITE 023

DATE

|      |               |
|------|---------------|
| 4/ 1 | 925.4(15:10)  |
| 4/ 2 | 1080.4(23:55) |
| 4/ 3 | 1089.5( 0:00) |
| 4/ 4 | 952.7(13:15)  |
| 4/ 5 | 972.9( 8:40)  |
| 4/ 6 | 881.1( 1:05)  |
| 4/ 7 | 884.4(10:30)  |
| 4/ 8 | 879.2(12:35)  |
| 4/ 9 | 882.4(17:05)  |
| 4/10 | 877.9( 9:00)  |
| 4/11 | 920.8( 7:20)  |
| 4/12 | 939.7(10:15)  |
| 4/13 | 907.8( 4:40)  |
| 4/14 | 2539.8(15:40) |
| 4/15 | 1046.5( 8:10) |
| 4/16 | 1138.4( 8:10) |
| 4/17 | 1057.6(10:50) |
| 4/18 | 987.3(17:00)  |
| 4/19 | 1008.1( 6:35) |
| 4/20 | 1010.1(21:05) |
| 4/21 | 989.2( 9:10)  |
| 4/22 | 1246.5(18:40) |
| 4/23 | 1049.8(10:20) |
| 4/24 | 1109.7( 9:45) |
| 4/25 | 989.2(15:55)  |
| 4/26 | 974.9( 2:45)  |
| 4/27 | 969.0( 8:50)  |
| 4/28 | 1053.0(11:50) |
| 4/29 | 887.0(17:35)  |
| 4/30 | 892.2(16:40)  |



MEMORANDUM

CORPORATION V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NON-METHANE HYDROCARBONS

SITE 023

DATE

|      |               |
|------|---------------|
| 4/1  | 371.9(20:40)  |
| 4/2  | 397.9(11:15)  |
| 4/3  | 433.1( 0:00)  |
| 4/4  | 409.0(11:40)  |
| 4/5  | 450.0(14:30)  |
| 4/6  | 426.6( 4:55)  |
| 4/7  | 490.4( 8:40)  |
| 4/8  | 490.4( 9:30)  |
| 4/9  | 464.3( 8:40)  |
| 4/10 | 1047.8(22:35) |
| 4/11 | 474.1( 8:25)  |
| 4/12 | 515.1(10:40)  |
| 4/13 | 358.2( 7:45)  |
| 4/14 | 332.1(10:35)  |
| 4/15 | 1749.9(14:40) |
| 4/16 | 265.7(10:15)  |
| 4/17 | 278.7(11:00)  |
| 4/18 | 623.9(16:15)  |
| 4/19 | 596.5( 6:25)  |
| 4/20 | 560.1(20:20)  |
| 4/21 | 719.0( 7:40)  |
| 4/22 | 969.0(16:05)  |
| 4/23 | 485.2( 4:25)  |
| 4/24 | 401.2( 8:35)  |
| 4/25 | 388.1( 6:40)  |
| 4/26 | 432.4(13:25)  |
| 4/27 | 370.5( 8:15)  |
| 4/28 | 295.7(19:00)  |
| 4/29 | 767.8(10:30)  |
| 4/30 | 795.2(13:45)  |



CORPORATION. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
 TABLE V. (UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

## SITE 023

561-8(15:10)

500.3(4:35)

453.6(17:35)

428.5(0:40)

450.2(15:05)

503.7(10:30)

573.2(16:05)

090.6(9:45)

592.6(9:15)

600.6150

333.4(15:20)

(55:52) 1. 476

868.4(17:55)

581.2(14:10)

795.5(14:20)

442.2(1:40)

LEWIS & CLARK

CORPORATION

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

OZONE

SITE 023

DATE

|      |              |
|------|--------------|
| 4/1  | 107.5(15:35) |
| 4/2  | 101.6(17:10) |
| 4/3  | 101.6(14:55) |
| 4/4  | 87.9( 3:50)  |
| 4/5  | 82.1(17:25)  |
| 4/6  | 87.9(11:30)  |
| 4/7  | 86.0(11:10)  |
| 4/8  | 95.7(15:00)  |
| 4/9  | 105.5(16:15) |
| 4/10 | 101.6(16:05) |
| 4/11 | 91.8( 9:40)  |
| 4/12 | 86.0( 1:10)  |
| 4/13 | 119.2(15:20) |
| 4/14 | 107.5(12:35) |
| 4/15 | 72.3( 0:05)  |
| 4/16 | 86.0(17:20)  |
| 4/17 | 97.7(11:00)  |
| 4/18 | 123.1(16:35) |
| 4/19 | 91.8(17:10)  |
| 4/20 | 154.3(14:35) |
| 4/21 | 101.6(10:45) |
| 4/22 | 103.5(11:45) |
| 4/23 | 105.5(18:50) |
| 4/24 | 109.4(16:30) |
| 4/25 | 109.4(12:45) |
| 4/26 | 109.4(10:55) |
| 4/27 | 109.4(10:50) |
| 4/28 | 103.5(11:35) |
| 4/29 | 101.6(10:55) |
| 4/30 | 107.5(11:00) |

LIBRARY

CORPORATION V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

BAROMETRIC PRESSURE

SITE 023

DATE

|      |              |
|------|--------------|
| 4/ 1 | 781.0( 0:00) |
| 4/ 2 | 784.0(23:05) |
| 4/ 3 | 789.0(20:50) |
| 4/ 4 | 792.0(22:00) |
| 4/ 5 | 796.0(20:35) |
| 4/ 6 | 798.0( 9:20) |
| 4/ 7 | 797.0( 5:00) |
| 4/ 8 | 796.0( 0:00) |
| 4/ 9 | 791.0( 0:00) |
| 4/10 | 788.0( 5:35) |
| 4/11 | 789.0(22:10) |
| 4/12 | 793.0(10:20) |
| 4/13 | 791.0( 0:00) |
| 4/14 | 786.0(21:30) |
| 4/15 | 789.0(20:25) |
| 4/16 | 791.0( 7:00) |
| 4/17 | 790.0( 0:00) |
| 4/18 | 788.0( 0:05) |
| 4/19 | 786.0( 0:00) |
| 4/20 | 790.0(23:20) |
| 4/21 | 794.0( 8:40) |
| 4/22 | 798.0(14:05) |
| 4/23 | 798.0( 6:20) |
| 4/24 | 798.0( 0:00) |
| 4/25 | 795.0( 0:00) |
| 4/26 | 791.0( 0:00) |
| 4/27 | 790.0( 8:00) |
| 4/28 | 792.0(22:30) |
| 4/29 | 793.0( 8:35) |
| 4/30 | 791.0( 0:00) |

WALTON

CORPORATION

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TOTAL PRECIPITATION

SITE 023

DATE

4/ 1  
4/ 2  
4/ 3  
4/ 4  
4/ 5  
4/ 6  
4/ 7  
4/ 8  
4/ 9  
4/10

4/11  
4/12  
4/13  
4/14  
4/15  
4/16  
4/17  
4/18  
4/19  
4/20

.01( 6:25)

.02( 9:10)  
.01( 1:15)  
.02( 6:30)  
.01(11:15)

.01(13:40)

.01(12:40)

4/21  
4/22  
4/23  
4/24  
4/25  
4/26  
4/27  
4/28  
4/29  
4/30



LOCAL DATA

CORPORATION  
 TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
 (UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED - WIND DIRECTION

SITE 023

| DATE | ( 8-FT) | ( 30-FT)     | (100-FT) | (200-FT)     |      |              |      |              |
|------|---------|--------------|----------|--------------|------|--------------|------|--------------|
| 4/ 1 | 16.0    | 199.0(18:10) | 20.0     | 193.0(18:10) | 24.0 | 194.0(18:10) | 28.0 | 206.0(18:10) |
| 4/ 2 | 10.0    | 234.0(10:00) | 12.0     | 173.0( 8:30) | 14.0 | 208.0( 6:10) | 16.0 | 219.0( 6:10) |
| 4/ 3 | 15.0    | 349.0(13:30) | 19.0     | 345.0(12:40) | 21.0 | 347.0(12:40) | 22.0 | 351.0(12:40) |
| 4/ 4 | 10.0    | 355.0(12:35) | 12.0     | 330.0(11:20) | 14.0 | 307.0(14:35) | 16.0 | 264.0(18:05) |
| 4/ 5 | 7.0     | 18.0( 9:20)  | 10.0     | 14.0(16:25)  | 10.0 | 18.0(16:25)  | 11.0 | 25.0(16:25)  |
| 4/ 6 | 9.0     | 229.0(13:55) | 11.0     | 227.0(13:55) | 12.0 | 251.0(15:00) | 13.0 | 221.0(19:55) |
| 4/ 7 | 12.0    | 230.0(12:15) | 14.0     | 229.0(12:15) | 15.0 | 232.0(12:15) | 16.0 | 243.0(12:15) |
| 4/ 8 | 16.0    | 204.0(14:20) | 19.0     | 192.0(14:50) | 20.0 | 203.0(12:50) | 22.0 | 209.0(12:50) |
| 4/ 9 | 24.0    | 200.0(12:55) | 28.0     | 188.0(12:55) | 31.0 | 185.0(12:55) | 32.0 | 205.0(11:00) |
| 4/10 | 20.0    | 194.0(12:35) | 24.0     | 189.0(12:35) | 28.0 | 189.0(12:35) | 30.0 | 198.0(12:35) |
| 4/11 | 21.0    | 180.0( 8:50) | 26.0     | 172.0( 8:50) | 30.0 | 172.0( 8:50) | 33.0 | 234.0(17:45) |
| 4/12 | 9.0     | 269.0( 1:00) | 13.0     | 264.0( 1:00) | 15.0 | 260.0( 1:10) | 17.0 | 272.0( 1:00) |
| 4/13 | 19.0    | 248.0(13:05) | 23.0     | 242.0(13:00) | 27.0 | 242.0(13:00) | 29.0 | 252.0(13:00) |
| 4/14 | 19.0    | 190.0(11:55) | 23.0     | 185.0(11:55) | 26.0 | 312.0(18:35) | 29.0 | 321.0(18:35) |
| 4/15 | 8.0     | 330.0( 8:45) | 11.0     | 321.0( 8:45) | 12.0 | 328.0(17:05) | 12.0 | 335.0( 8:35) |
| 4/16 | 9.0     | 320.0(13:25) | 12.0     | 315.0(13:25) | 13.0 | 322.0(13:25) | 13.0 | 328.0(13:25) |
| 4/17 | 13.0    | 288.0(16:10) | 18.0     | 355.0(17:10) | 21.0 | 337.0(17:05) | 23.0 | 353.0(20:35) |
| 4/18 | 18.0    | 209.0(13:45) | 23.0     | 349.0(17:20) | 28.0 | 353.0(17:20) | 29.0 | 360.0(17:20) |
| 4/19 | 11.0    | 335.0(11:40) | 13.0     | 308.0(10:30) | 15.0 | 327.0( 0:00) | 15.0 | 331.0( 0:00) |
| 4/20 | 14.0    | 351.0(16:35) | 18.0     | 344.0(16:35) | 19.0 | 346.0(16:35) | 19.0 | 353.0(16:35) |
| 4/21 | 10.0    | 324.0(13:05) | 12.0     | 314.0(13:05) | 14.0 | 193.0(19:10) | 16.0 | 206.0(19:10) |
| 4/22 | 13.0    | 350.0(15:10) | 16.0     | 342.0(15:10) | 17.0 | 344.0(15:10) | 17.0 | 347.0(15:10) |
| 4/23 | 15.0    | 335.0(16:25) | 19.0     | 331.0(16:25) | 22.0 | 340.0(16:25) | 22.0 | 345.0(16:25) |
| 4/24 | 13.0    | 355.0(12:00) | 17.0     | 53.0(17:45)  | 21.0 | 57.0(17:45)  | 22.0 | 60.0(17:45)  |
| 4/25 | 12.0    | 5.0(12:40)   | 16.0     | 306.0(13:45) | 17.0 | 312.0(13:45) | 18.0 | 315.0(13:45) |
| 4/26 | 20.0    | 182.0(12:25) | 24.0     | 172.0(12:25) | 28.0 | 170.0(12:25) | 28.0 | 177.0(12:25) |
| 4/27 | 16.0    | 326.0(19:10) | 21.0     | 322.0(19:10) | 25.0 | 322.0(19:10) | 28.0 | 329.0(19:10) |
| 4/28 | 20.0    | 199.0(12:15) | 26.0     | 196.0(12:15) | 32.0 | 197.0(12:15) | 32.0 | 206.0(12:15) |
| 4/29 | 15.0    | 334.0(12:30) | 18.0     | 321.0(12:30) | 20.0 | 325.0(12:30) | 19.0 | 328.0(12:30) |
| 4/30 | 13.0    | 225.0(15:15) | 17.0     | 195.0(16:00) | 18.0 | 218.0(15:15) | 19.0 | 221.0(15:20) |



LAUREL HILL

CORPORATION V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR)

TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;

PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

RELATIVE HUMIDITY

SITE 023

| DATE | ( 8-FT)      | ( 30-FT)     | (100-FT)     | (200-FT)     |
|------|--------------|--------------|--------------|--------------|
| 4/ 1 | 100.0(12:45) | 100.0( 6:20) | 100.0( 5:00) | 100.0( 9:00) |
| 4/ 2 | 100.0(19:40) | 99.0(23:25)  | 100.0( 0:00) | 100.0(12:00) |
| 4/ 3 | 100.0( 0:00) | 98.0( 0:05)  | 100.0( 0:00) | 100.0( 0:00) |
| 4/ 4 | 96.0( 0:00)  | 93.0( 0:00)  | 94.0( 0:00)  | 94.0(21:05)  |
| 4/ 5 | 92.0( 0:00)  | 93.0( 0:00)  | 94.0( 0:00)  | 92.0( 0:00)  |
| 4/ 6 | 72.0( 0:15)  | 71.0( 3:50)  | 73.0( 0:45)  | 68.0( 4:30)  |
| 4/ 7 | 58.0( 7:00)  | 56.0( 3:05)  | 56.0( 7:10)  | 53.0( 8:00)  |
| 4/ 8 | 57.0( 1:40)  | 56.0( 6:50)  | 56.0( 3:30)  | 54.0( 2:15)  |
| 4/ 9 | 45.0( 3:45)  | 45.0( 3:35)  | 47.0( 3:35)  | 44.0( 3:20)  |
| 4/10 | 44.0( 2:35)  | 45.0( 2:35)  | 47.0(23:55)  | 45.0(23:45)  |
| 4/11 | 100.0( 9:35) | 100.0(18:20) | 100.0( 9:35) | 100.0( 9:55) |
| 4/12 | 100.0( 1:35) | 100.0( 4:00) | 100.0( 0:00) | 100.0( 3:30) |
| 4/13 | 100.0( 0:40) | 100.0(10:00) | 100.0( 0:00) | 100.0( 7:00) |
| 4/14 | 91.0(23:05)  | 87.0(22:25)  | 93.0(22:55)  | 92.0(22:55)  |
| 4/15 | 100.0( 8:10) | 100.0( 7:00) | 100.0( 6:55) | 100.0( 6:50) |
| 4/16 | 100.0( 0:00) | 100.0( 0:00) | 100.0( 0:05) | 100.0( 0:05) |
| 4/17 | 94.0( 3:05)  | 88.0( 3:05)  | 92.0( 1:35)  | 90.0( 1:20)  |
| 4/18 | 100.0(21:25) | 100.0(22:10) | 100.0(20:25) | 100.0(20:55) |
| 4/19 | 100.0( 1:55) | 100.0( 0:00) | 100.0( 0:00) | 100.0( 1:20) |
| 4/20 | 100.0( 0:00) | 99.0( 0:00)  | 100.0( 0:00) | 100.0( 0:00) |
| 4/21 | 62.0( 5:10)  | 59.0( 6:25)  | 61.0( 7:40)  | 56.0( 7:40)  |
| 4/22 | 48.0( 6:40)  | 48.0( 7:00)  | 49.0( 7:15)  | 48.0( 7:40)  |
| 4/23 | 50.0( 6:25)  | 52.0( 7:00)  | 53.0( 7:00)  | 52.0( 7:45)  |
| 4/24 | 62.0( 4:45)  | 60.0( 6:35)  | 58.0( 6:50)  | 59.0( 7:40)  |
| 4/25 | 55.0( 6:35)  | 54.0( 7:45)  | 56.0( 7:45)  | 55.0( 7:35)  |
| 4/26 | 55.0( 5:05)  | 54.0( 5:05)  | 56.0( 7:00)  | 52.0( 5:10)  |
| 4/27 | 87.0(23:35)  | 85.0(22:00)  | 88.0(23:55)  | 87.0(23:40)  |
| 4/28 | 98.0( 4:40)  | 96.0( 5:50)  | 97.0( 5:50)  | 94.0( 3:05)  |
| 4/29 | 89.0( 5:00)  | 89.0( 6:15)  | 89.0( 4:55)  | 86.0( 4:40)  |
| 4/30 | 69.0( 5:20)  | 69.0( 1:35)  | 69.0( 1:35)  | 68.0( 1:35)  |

TABLE 1

CONCORPATION V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR APR 1 THRU 30  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TEMPERATURE

| SITE 023 | DATE        | ( 8-FT)     | ( 30-FT)    | (100-FT)    | (200-FT)    |
|----------|-------------|-------------|-------------|-------------|-------------|
| 4/ 1     | 34.0(16:05) | 32.0(16:50) | 32.0(16:50) | 29.0(16:50) | 29.0(16:50) |
| 4/ 2     | 31.0(10:10) | 29.0(10:10) | 29.0(10:30) | 26.0(10:10) | 26.0(10:10) |
| 4/ 3     | 29.0(15:00) | 27.0(15:35) | 27.0(17:00) | 24.0(17:00) | 24.0(17:00) |
| 4/ 4     | 46.0(14:40) | 43.0(14:35) | 43.0(14:50) | 40.0(14:35) | 40.0(14:35) |
| 4/ 5     | 47.0(15:50) | 46.0(16:10) | 45.0(16:10) | 44.0(16:10) | 44.0(16:10) |
| 4/ 6     | 58.0(16:10) | 56.0(15:45) | 55.0(16:10) | 54.0(16:10) | 54.0(16:10) |
| 4/ 7     | 60.0(13:10) | 59.0(13:50) | 57.0(13:05) | 57.0(16:55) | 57.0(16:55) |
| 4/ 8     | 65.0(13:25) | 63.0(14:15) | 61.0(14:15) | 61.0(14:15) | 61.0(14:15) |
| 4/ 9     | 67.0(12:05) | 66.0(13:25) | 64.0(14:05) | 64.0(14:35) | 64.0(14:35) |
| 4/10     | 66.0(12:50) | 65.0(16:00) | 63.0(15:55) | 63.0(16:35) | 63.0(16:35) |
| 4/11     | 53.0(12:30) | 51.0(12:20) | 50.0(12:40) | 49.0(13:55) | 49.0(13:55) |
| 4/12     | 43.0(16:20) | 41.0(15:20) | 40.0(15:25) | 38.0(15:25) | 38.0(15:25) |
| 4/13     | 48.0(17:25) | 45.0(15:20) | 44.0(16:55) | 43.0(12:35) | 43.0(12:35) |
| 4/14     | 60.0(12:35) | 58.0(12:45) | 56.0(12:45) | 56.0(14:20) | 56.0(14:20) |
| 4/15     | 38.0(17:35) | 36.0(15:45) | 34.0(14:50) | 34.0(15:50) | 34.0(15:50) |
| 4/16     | 51.0(14:20) | 51.0(16:45) | 49.0(16:30) | 48.0(16:45) | 48.0(16:45) |
| 4/17     | 63.0(13:55) | 63.0(14:35) | 61.0(14:20) | 60.0(14:20) | 60.0(14:20) |
| 4/18     | 63.0(13:05) | 62.0(14:35) | 60.0(14:35) | 62.0(16:00) | 62.0(16:00) |
| 4/19     | 34.0(11:05) | 31.0( 0:00) | 30.0( 0:05) | 30.0(20:40) | 30.0(20:40) |
| 4/20     | 49.0(14:50) | 47.0(15:50) | 46.0(16:20) | 44.0(14:50) | 44.0(14:50) |
| 4/21     | 58.0(13:25) | 57.0(14:15) | 55.0(14:15) | 53.0(14:15) | 53.0(14:15) |
| 4/22     | 62.0(11:35) | 61.0(12:50) | 60.0(14:10) | 59.0(14:55) | 59.0(14:55) |
| 4/23     | 68.0(16:15) | 66.0(15:05) | 64.0(15:00) | 64.0(15:30) | 64.0(15:30) |
| 4/24     | 67.0(12:00) | 67.0(15:45) | 64.0(14:25) | 63.0(14:25) | 63.0(14:25) |
| 4/25     | 67.0(15:35) | 65.0(15:35) | 63.0(15:30) | 62.0(13:45) | 62.0(13:45) |
| 4/26     | 68.0(11:05) | 64.0(11:00) | 63.0(17:25) | 62.0(16:55) | 62.0(16:55) |
| 4/27     | 63.0(11:20) | 62.0(10:50) | 60.0(10:50) | 59.0(10:50) | 59.0(10:50) |
| 4/28     | 58.0(14:05) | 56.0(13:55) | 55.0(14:05) | 53.0(13:55) | 53.0(13:55) |
| 4/29     | 63.0(15:20) | 63.0(15:45) | 61.0(14:35) | 60.0(15:25) | 60.0(15:25) |
| 4/30     | 69.0(14:20) | 68.0(14:10) | 67.0(15:10) | 66.0(15:10) | 66.0(15:10) |

TABLE VI  
THE FIVE MAXIMUM INDEPENDENT SLIDING  
AVERAGES FOR APRIL 1 THRU 30



TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR APR 1-30

(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

NITROGEN OXIDES (WS; WD)  
1-HOUR

SITE 023

1. 4/18( 6:40- 7:40) 20.4( 11 2)  
2. 4/21( 2:30- 3:30) 17.6( 0:172)  
3. 4/28(15:50-16:50) 17.0( 6:205)  
4. 4/25(10:10-11:10) 16.9( 5:328)  
5. 4/25(11:15-12:15) 16.9( 8: 4)

NITRIC OXIDE (WS; WD)  
1-HOUR

SITE 023

1. 4/25(11:50-12:50) 14.7( 9:349)  
2. 4/28(13:35-14:35) 14.7(16:199)  
3. 4/28(18:10-19:10) 14.5( 9:161)  
4. 4/28(20:55-21:55) 14.5( 4:126)  
5. 4/28(17:00-18:00) 14.4( 8:171)

NITROGEN DIOXIDE (WS; WD)  
1-HOUR

SITE 023

1. 4/21( 2:30- 3:30) 17.5( 0:172)  
2. 4/26( 6:50- 7:50) 16.7( 3: 75)  
3. 4/26(11:00-12:00) 16.1(14:207)  
4. 4/26(15:25-16:25) 15.4(13:243)  
5. 4/26( 4:20- 5:20) 15.0( 3: 95)

TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR APR 1-30  
(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC MEIER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

SULFUR DIOXIDE (WS: WD)  
1-HOUR

SITE 023

|    |                   |             |
|----|-------------------|-------------|
| 1. | 4/24(14:45-15:45) | 3.0(10: 23) |
| 2. | 4/24(13:00-14:00) | 2.4( 7: 20) |
| 3. | 4/24(11:00-12:00) | 2.2( 9:336) |
| 4. | 4/24(15:50-16:50) | 2.0(13:356) |
| 5. | 4/24(18:00-19:00) | 2.0( 9: 32) |

SULFUR DIOXIDE (WS: WD)  
3-HOUR

SITE 023

|    |                   |             |
|----|-------------------|-------------|
| 1. | 4/24(12:45-15:45) | 2.3(10: 2)  |
| 2. | 4/24(18:00-21:00) | 1.9( 5: 62) |
| 3. | 4/24(21:05- 0:05) | 1.2( 4:222) |
| 4. | 4/30( 5:30- 8:30) | .8( 4: 96)  |
| 5. | 4/30(20:05-23:05) | .8( 6:193)  |

SULFUR DIOXIDE (WS: WD)  
24-HOUR

SITE 023

|    |                   |             |
|----|-------------------|-------------|
| 1. | 4/24- 4/25( 4:00) | 1.2( 5:319) |
| 2. | 4/29- 4/30( 0:00) | .4( 7:170)  |
| 3. | 4/21- 4/22(20:00) | .1( 4:355)  |
| 4. | 4/14- 4/15(21:00) | .1( 6:295)  |
| 5. | 4/16- 4/17(11:00) | .0( 3:313)  |



1-30

TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR APR

(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

HYDROGEN SULFIDE (WS: WD)  
1-HOUR

SITE 023

|    |                   |             |
|----|-------------------|-------------|
| 1. | 4/20(12:30-13:30) | 8.4(10:350) |
| 2. | 4/20(13:40-14:40) | 8.3(10:355) |
| 3. | 4/14( 5:50- 6:50) | 3.9( 3:102) |
| 4. | 4/14( 7:30- 8:30) | 3.9( 4: 79) |
| 5. | 4/14( 3:20- 4:20) | 3.8( 4:110) |

TOTAL HYDROCARBONS (WS: WD)  
3-HOUR (6-9AM)

SITE 023

|    |                   |                |
|----|-------------------|----------------|
| 1. | 4/19( 6:00- 9:00) | 1463.1( 6:299) |
| 2. | 4/11( 6:00- 9:00) | 1315.6( 5:217) |
| 3. | 4/22( 6:00- 9:00) | 1313.0( 1:358) |
| 4. | 4/23( 6:00- 9:00) | 1307.1( 2:277) |
| 5. | 4/26( 6:00- 9:00) | 1299.9( 4:136) |

PRIMARY STANDARD EXCEEDED 24 TIMES AT SITE 023

SECONDARY STANDARD EXCEEDED 24 TIMES AT SITE 023

TABLE VI. THE FIVE MAXIMUM AVERAGES FOR APR 1-30  
 (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)  
 UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

METHANE (WS; WD)  
 3-HOUR (6-9AM)

SITE 023

|                             |       |       |       |         |                      |
|-----------------------------|-------|-------|-------|---------|----------------------|
| 1.                          | 4/16( | 6:00- | 9:00) | 1075.3( | 2:352)               |
| 2.                          | 4/15( | 6:00- | 9:00) | 1032.4( | 8:312)               |
| 3.                          | 4/17( | 6:00- | 9:00) | 1024.1( | 1:41)                |
| 4.                          | 4/24( | 6:00- | 9:00) | 956.5(  | 2:357)               |
| 5.                          | 4/26( | 6:00- | 9:00) | 954.9(  | 4:136)               |
| PRIMARY STANDARD EXCEEDED   |       |       |       |         | 24 TIMES AT SITE 023 |
| SECONDARY STANDARD EXCEEDED |       |       |       |         | 24 TIMES AT SITE 023 |



CARBON MONOXIDE (WS: WD)  
 1-HOUR

023

SITE

1. 4/20( 3:05- 4:05)1530.8( 2:235)
2. 4/20( 0:35- 1:35)1150.2( 0:131)
3. 4/21(22:05-23:05) 751.6( 2: 74)
4. 4/19(19:25-20:25) 745.8( 2:131)
5. 4/21(17:50-18:50) 700.9( 5:178)

THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR APR 1-30  
(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)  
UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

CARBON MONOXIDE (WS: WD)  
8-HOUR

31E

|    |                   |        |         |
|----|-------------------|--------|---------|
| 1. | 4/19(20:55-4:55)  | 816.81 | 1:1621  |
| 2. | 4/21(15:55-23:55) | 688.01 | 4:1461  |
| 3. | 4/15(8:55-16:55)  | 534.51 | 6:3031  |
| 4. | 4/16(5:55-13:55)  | 531.11 | 3:3131  |
| 5. | 4/14(15:55-23:55) | 517.41 | 11:2841 |



TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR APR 1-30  
(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

OZONE (WS: WD)  
1-HOUR

SITE 023

1. 4/18(15:40-16:40) 118.5(15:237)  
2. 4/13(15:15-16:15) 117.4(11:228)  
3. 4/13(16:20-17:20) 110.5( 6:252)  
4. 4/18(12:30-13:30) 110.5(15:207)  
5. 4/18(13:35-14:35) 107.9(16:209)

TABLE VI. THE FIVE MAXIMUM AVERAGES FOR APR 1-30  
UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER

PARTICULATE  
24-HOUR

023

SITE

|   |      |      |
|---|------|------|
| 1 | 4/27 | 36.0 |
| 2 | 4/10 | 34.0 |
| 3 | 4/28 | 32.0 |
| 4 | 4/11 | 25.0 |
| 5 | 4/19 | 16.0 |

TABLE VII  
FUNCTIONAL DEPENDENCE OF RECORDED  
PARAMETERS UPON WIND DIRECTION

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITROGEN OXIDES(NOX) TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77) C-B SHALE OIL PROJECT

| CONCENTRATION<br>UG/M**3<br>GT 160 : |       | WIND DIRECTION |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | TOTAL |      |
|--------------------------------------|-------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------|
|                                      |       | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW |       | CALM |
| 140 -                                | 160 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 120 -                                | 140 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 110 -                                | 120 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 100 -                                | 110 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 90 -                                 | 100 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     | 1   | 1   |       | 8    |
| 80 -                                 | 90 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     | 0   | 0   |       | 8    |
| 70 -                                 | 80 :  |                |     |     |     |     |     |     | 1   |     |     |     |     |     |     | 0   | 0   |       | 8    |
| 60 -                                 | 70 :  |                |     |     |     |     |     |     | 0   |     |     |     |     |     |     | 0   | 0   |       | 8    |
| 50 -                                 | 60 :  |                |     |     |     |     |     |     | 0   |     |     |     |     |     |     | 0   | 0   |       | 8    |
| 40 -                                 | 50 :  | 1              |     |     |     |     |     |     | 0   |     |     |     |     |     |     | 1   | 1   |       | 8    |
| 30 -                                 | 40 :  | 3              | 1   |     |     | 1   |     |     | 0   |     |     |     |     |     |     | 1   | 0   |       | 8    |
| 20 -                                 | 30 :  | 4              | 3   |     | 1   | 2   | 2   | 2   |     | 1   |     |     |     |     |     | 0   | 1   | 3     | 19   |
| 10 -                                 | 20 :  | 38             | 20  | 9   | 18  | 48  | 57  | 30  | 64  | 68  | 96  | 54  | 30  | 30  | 47  | 59  | 35  | 5     | 708  |
| LT                                   | 10 :  | 386            | 172 | 173 | 193 | 335 | 323 | 518 | 504 | 587 | 841 | 836 | 427 | 405 | 500 | 704 | 411 | 132   | 7447 |
| TOTAL :                              |       | 432            | 196 | 182 | 212 | 386 | 382 | 548 | 571 | 655 | 938 | 890 | 457 | 435 | 547 | 764 | 449 | 142   | 8186 |
| .....                                |       |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| OFF-AD                               |       | 3.             | 3.  | 2.  | 2.  | 3.  | 3.  | 2.  | 3.  | 2.  | 2.  | 2.  | 2.  | 2.  | 3.  | 3.  | 3.  | 4.    | 2.   |

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITRIC OXIDE (NO)

TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77) C-B SHALE OIL PROJECT

WIND DIRECTION

|               | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
|---------------|---|-----|----|-----|---|-----|----|-----|---|-----|----|-----|---|-----|----|-----|------|-------|
| CONCENTRATION |   |     |    |     |   |     |    |     |   |     |    |     |   |     |    |     |      |       |
| UG/M**3       |   |     |    |     |   |     |    |     |   |     |    |     |   |     |    |     |      |       |
| GT 160 :      |   |     |    |     |   |     |    |     |   |     |    |     |   |     |    |     |      |       |

140 - 160 :

120 - 140 :

110 - 120 :

100 - 110 :

90 - 100 :

80 - 90 :

70 - 80 :

60 - 70 :

50 - 60 :

40 - 50 :

30 - 40 :

20 - 30 :

10 - 20 :

LT 10 :

TOTAL :

MEAN

|  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|  | 26  | 10  | 7   | 10  | 23  | 27  | 13  | 42  | 31  | 47  | 21  | 4   | 14  | 30  | 49  | 30  | 2   | 2    |
|  | 406 | 186 | 175 | 202 | 363 | 355 | 535 | 529 | 624 | 891 | 869 | 453 | 421 | 517 | 715 | 417 | 140 | 386  |
|  | 432 | 196 | 182 | 212 | 386 | 382 | 548 | 571 | 655 | 938 | 890 | 457 | 435 | 547 | 764 | 449 | 142 | 7798 |
|  | 2.  | 1.  | 0.  | 1.  | 1.  | 1.  | 0.  | 1.  | 0.  | 1.  | 0.  | 0.  | 2.  | 2.  | 2.  | 2.  | 1.  | 1.   |



NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITROGEN DIOXIDE(N02)

TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77) C-B SHALE OIL PROJECT

| CONCENTRATION<br>UG/M**3<br>GT 160 : |       | WIND DIRECTION |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | TOTAL |      |
|--------------------------------------|-------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------|
|                                      |       | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW |       | CALM |
| 140 -                                | 160 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 120 -                                | 140 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 110 -                                | 120 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 100 -                                | 110 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 90 -                                 | 100 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 80 -                                 | 90 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       | 8    |
| 70 -                                 | 80 :  |                |     |     |     |     |     | 1   |     |     |     |     |     |     |     |     |     |       | 1    |
| 60 -                                 | 70 :  |                |     |     |     |     |     | 0   |     |     |     |     |     |     |     | 1   |     |       | 1    |
| 50 -                                 | 60 :  |                |     |     |     |     |     | 0   |     |     |     |     |     |     |     | 0   | 1   |       | 1    |
| 40 -                                 | 50 :  |                |     |     |     |     |     | 0   |     |     |     |     |     |     |     | 0   | 1   |       | 1    |
| 30 -                                 | 40 :  | 2              | 1   |     |     | 1   |     | 0   |     |     |     |     |     |     |     | 0   | 0   | 4     | 4    |
| 20 -                                 | 30 :  | 1              | 2   |     | 1   | 1   | 2   | 2   |     |     | 1   |     |     |     |     | 1   | 3   | 15    | 15   |
| 10 -                                 | 20 :  | 19             | 10  | 2   | 8   | 26  | 30  | 17  | 22  | 37  | 49  | 33  | 25  | 16  | 17  | 9   | 5   | 3     | 328  |
| LT                                   | 10 :  | 410            | 183 | 180 | 203 | 358 | 350 | 531 | 546 | 618 | 888 | 857 | 432 | 419 | 530 | 754 | 442 | 134   | 7835 |
| TOTAL :                              |       | 432            | 196 | 182 | 212 | 386 | 382 | 548 | 571 | 655 | 938 | 890 | 457 | 435 | 547 | 764 | 449 | 142   | 8186 |
| .....                                |       | 1.             | 2.  | 0.  | 1.  | 2.  | 2.  | 1.  | 1.  | 1.  | 1.  | 0.  | 1.  | 0.  | 0.  | 0.  | 0.  | 3.    | 1.   |
| MEAN                                 |       | 1.             | 2.  | 0.  | 1.  | 2.  | 2.  | 1.  | 1.  | 1.  | 1.  | 0.  | 1.  | 0.  | 0.  | 0.  | 0.  | 3.    | 1.   |

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

SULFUR DIOXIDE(SO2) TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77) C-B SHALE OIL PROJECT

| CONCENTRATION<br>UG/M**3 |       | WIND DIRECTION |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | TOTAL |      |
|--------------------------|-------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------|
|                          |       | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW |       | CALM |
| GT                       | 140 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 130 -                    | 140 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 120 -                    | 130 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 110 -                    | 120 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 100 -                    | 110 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 90 -                     | 100 : |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 80 -                     | 90 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 70 -                     | 80 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 60 -                     | 70 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 50 -                     | 60 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 40 -                     | 50 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 30 -                     | 40 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 20 -                     | 30 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| 10 -                     | 20 :  |                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| LT                       | 10 :  | 441            | 209 | 188 | 217 | 402 | 406 | 576 | 588 | 667 | 970 | 906 | 460 | 437 | 547 | 771 | 460 | 148   | 8393 |
| TOTAL                    | :     | 441            | 209 | 188 | 217 | 402 | 406 | 576 | 588 | 667 | 970 | 906 | 461 | 437 | 547 | 771 | 460 | 148   | 8394 |
|                          |       | .....          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |      |
| MEAN                     |       | 0.             | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    | 0.   |

II B

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

HYDROGEN SULFIDE (H<sub>2</sub>S)

TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77) C-B SHALE OIL PROJECT

WIND DIRECTION

|               | N     | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW | CALM | TOTAL |
|---------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|
| CONCENTRATION |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| UG/M**3       |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| GT 140 :      |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| 130 -         | 140 : |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 120 -         | 130 : |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 110 -         | 120 : |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 100 -         | 110 : |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 90 -          | 100 : |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 80 -          | 90 :  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 70 -          | 80 :  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 60 -          | 70 :  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 50 -          | 60 :  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 40 -          | 50 :  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 30 -          | 40 :  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 20 -          | 30 :  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| 10 -          | 20 :  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | :     |
| LT            | 10 :  | 431 | 207 | 188 | 217 | 402 | 406 | 576 | 588 | 668 | 970 | 906 | 460 | 437 | 547 | 769 | 452  | 148 : |
|               |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | 8372  |
| TOTAL         | :     | 431 | 207 | 188 | 217 | 402 | 406 | 576 | 588 | 668 | 970 | 906 | 461 | 437 | 547 | 769 | 454  | 148 : |
|               |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      | 8375  |
| MEAN          |       | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.    |

# NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

TOTAL HYDROCARBONS C-B SHALE OIL PROJECT  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

WIND DIRECTION

[illegible]

## CONCENTRATION

UG/M\*\*3

GT 4000 3

3600 - 4000 :

3400 - 3600 :

3200 - 3400 :

3000 - 3200 !

2800 - 3000 :

2600 - 2800 :

2400 - 2600 :

2200 - 2400 :

2000 - 2200 :

1800 - 2000 :

1600 - 1800 3

171691

TOTAL

MEAN/100

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

METHANE(CH4)

TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77) C-B SHALE OIL PROJECT

WIND DIRECTION

|               | N    | NNE  | NE   | ENE  | E    | ESE  | SE   | SSE  | S    | SSW  | SW   | WSW  | W    | WNW  | NW   | NNW  | CALM | TOTAL |
|---------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| CONCENTRATION |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| UG/M**3       |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| GT 2400 :     |      |      |      |      |      |      |      |      |      |      |      | 1    |      |      |      |      | 1    | 1     |
| 2200 - 2400 : |      |      |      |      |      |      |      |      |      |      |      | 0    |      |      |      |      | 1    | 0     |
| 2000 - 2200 : |      |      |      |      |      |      |      |      |      |      |      | 0    |      |      |      |      | 1    | 0     |
| 1800 - 2000 : |      |      |      |      |      |      |      |      |      |      |      | 0    |      |      |      |      | 1    | 0     |
| 1600 - 1800 : |      |      |      |      |      |      |      |      |      |      |      | 0    |      |      |      |      | 1    | 0     |
| 1400 - 1600 : |      |      |      |      |      |      |      |      |      |      |      | 0    |      |      |      |      | 1    | 0     |
| 1200 - 1400 : | 2    |      |      |      |      |      |      |      |      |      |      | 0    |      |      |      |      | 1    | 2     |
| 1000 - 1200 : | 49   | 23   | 19   | 12   | 11   | 9    | 11   | 19   | 19   | 25   | 52   | 30   | 93   | 153  | 196  | 80   | 21   | 822   |
| 800 - 1000 :  | 359  | 175  | 157  | 186  | 370  | 381  | 537  | 520  | 631  | 935  | 824  | 416  | 328  | 369  | 535  | 355  | 123  | 7201  |
| 600 - 800 :   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 1    | 0    | 0    | 2     |
| 400 - 600 :   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| 200 - 400 :   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 1    | 0    | 1    | 0    | 0    | 2     |
| LT 200 :      | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| TOTAL :       | 410  | 198  | 176  | 198  | 381  | 390  | 548  | 539  | 650  | 960  | 876  | 447  | 423  | 522  | 733  | 435  | 144  | 8030  |
| MEAN          | 941. | 934. | 925. | 909. | 900. | 898. | 891. | 893. | 887. | 889. | 902. | 904. | 925. | 946. | 939. | 935. | 928. | 911.  |





NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

CARBON MONOXIDE(CO) TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77) C-B SHALE OIL PROJECT

| CONCENTRATION<br>UG/M**3<br>GT 4250 : |     | WIND DIRECTION |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | TOTAL |      |
|---------------------------------------|-----|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|
|                                       |     | N              | NNE  | NE   | ENE  | E    | ESE  | SE   | SSE  | S    | SSW  | SW   | WSW  | W    | WNW  | NW   | NNW  |       | CALM |
| 3750 - 4000 :                         |     |                |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       | :    |
| 3500 - 3750 :                         |     |                |      |      |      |      |      |      |      |      | 1    |      |      |      |      |      |      |       | :    |
| 3250 - 3500 :                         |     |                |      |      |      |      |      |      |      |      | 0    |      |      |      |      |      |      |       | :    |
| 3000 - 3250 :                         |     |                |      |      |      |      |      |      |      |      | 2    |      |      |      |      |      |      | 2 :   | 4    |
| 2750 - 3000 :                         |     |                |      |      |      |      |      |      |      |      | 0    |      |      |      |      |      |      | 1 :   | 1    |
| 2500 - 2750 :                         |     |                |      |      |      |      |      |      |      |      | 0    |      |      |      |      |      |      | 0 :   | 0    |
| 2250 - 2500 :                         |     |                |      |      |      |      |      |      |      |      | 0    |      |      |      |      |      |      | 0 :   | 0    |
| 2000 - 2250 :                         |     |                |      |      |      |      |      |      |      |      | 0    |      |      |      |      |      |      | 0 :   | 1    |
| 1750 - 2000 :                         |     |                |      |      |      |      |      |      |      |      | 1    |      |      |      |      |      |      | 0 :   | 1    |
| 1500 - 1750 :                         |     |                |      |      |      |      |      |      |      |      | 1    |      |      |      |      |      |      | 1 :   | 2    |
| 1250 - 1500 :                         |     |                |      |      |      |      |      |      |      |      | 0    |      |      |      |      |      |      | 2 :   | 4    |
| LT 1250 :                             | 202 | 116            | 124  | 103  | 136  | 149  | 233  | 210  | 186  | 272  | 442  | 208  | 211  | 295  | 494  | 272  | 108  | :     | 3761 |
| TOTAL :                               | 202 | 116            | 124  | 103  | 136  | 149  | 234  | 212  | 186  | 272  | 446  | 209  | 211  | 295  | 494  | 272  | 114  | :     | 3775 |
| .....                                 |     |                |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |       |      |
| MEAN                                  |     | 446.           | 451. | 442. | 437. | 438. | 434. | 481. | 444. | 423. | 436. | 458. | 442. | 477. | 479. | 464. | 453. | 603.  | 458. |

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

OZONE (03)

TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

C-B SHALE OIL PROJECT

WIND DIRECTION

|               | N   | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW | CALM | TOTAL |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|
| CONCENTRATION |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| UG/M**3       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| GT 240 :      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| 220 - 240 :   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| 200 - 220 :   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| 180 - 200 :   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| 160 - 180 :   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |       |
| 140 - 160 :   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 1   |      | 1     |
| 120 - 140 :   |     |     |     |     |     |     |     |     | 1   | 1   |     |     |     |     |     | 0   |      | 2     |
| 100 - 120 :   | 63  | 22  | 25  | 15  | 11  | 17  | 27  | 69  | 87  | 161 | 168 | 103 | 47  | 45  | 49  | 46  |      | 955   |
| 80 - 100 :    | 230 | 75  | 68  | 88  | 168 | 207 | 289 | 314 | 392 | 487 | 308 | 134 | 136 | 244 | 337 | 209 | 31   | 3717  |
| 60 - 80 :     | 133 | 92  | 76  | 88  | 190 | 154 | 179 | 175 | 167 | 254 | 237 | 159 | 173 | 185 | 343 | 193 | 72   | 2870  |
| 40 - 60 :     | 17  | 21  | 16  | 20  | 32  | 27  | 80  | 30  | 25  | 62  | 170 | 63  | 80  | 73  | 42  | 20  | 37   | 815   |
| 20 - 40 :     | 5   | 2   | 3   | 6   | 1   | 1   | 1   | 0   | 0   | 7   | 22  | 2   | 1   | 1   | 0   | 3   | 6    | 61    |
| LT 20 :       | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 1    | 2     |
| TOTAL :       | 448 | 212 | 188 | 217 | 402 | 406 | 576 | 588 | 671 | 971 | 906 | 462 | 437 | 548 | 772 | 472 | 147  | 8423  |
| MEAN          | 85. | 79. | 81. | 77. | 77. | 79. | 79. | 83. | 85. | 85. | 79. | 81. | 77. | 79. | 80. | 81. | 65.  | 81.   |

TABLE VIII  
DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

DIURNAL VARIATION OF NITROGEN OXIDES(UG/M\*\*3)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4 | 5  | 6 | 7 | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|---|----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 2    | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 3    | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 4    | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 5    | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 6    | *  | *  | *  | * | 10 | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 7    | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 8    | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 9    | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 10   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 11   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 12   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 13   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 14   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 15   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 16   | *  | *  | *  | * | 10 | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 17   | *  | *  | *  | * | *  | * | * | 9  | 9  | 9  | *  | 10 | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 18   | *  | *  | *  | * | *  | * | * | 20 | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 19   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 20   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 21   | *  | *  | *  | * | 13 | * | * | *  | 14 | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 22   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 23   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 24   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 25   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 26   | *  | *  | *  | * | 13 | * | * | 16 | 13 | 13 | 16 | 17 | 14 | 14 | 14 | 15 | 15 | 14 | 13 | 14 | 13 | 13 | 13 | 14 | *    |
| 27   | 13 | 13 | 13 | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 28   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 29   | 17 | 17 | 17 | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 30   | *  | *  | *  | * | *  | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| MEAN | 2  | 2  | 2  | 2 | 2  | 1 | 2 | 2  | 2  | 2  | 3  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 3    |

TOTAL NUMBER OF OBSERVATIONS = 8177 MEAN = 2.

\* DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

; INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF NITRIC OXIDE(UG/M\*\*3)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 2    | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 3    | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 4    | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 5    | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 6    | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 7    | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 8    | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 9    | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 10   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 11   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 12   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 13   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 14   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 15   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 16   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 17   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 18   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 19   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 20   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 21   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 22   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 23   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 24   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 25   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 26   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 27   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 28   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 29   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| 30   | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *    |
| MEAN | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13   |

TOTAL NUMBER OF OBSERVATIONS = 8177 MEAN = 1.

\* DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

: INDICATES CALIBRATION DURING THE HO

| DAY  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 2    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 3    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 4    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 5    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 6    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 7    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 8    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 9    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 10   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 11   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 12   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 13   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 14   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 15   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 16   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 17   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 18   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 19   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 20   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 21   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 22   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 23   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 24   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 25   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 26   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 27   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 28   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 29   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 30   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| MEAN | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1    |

TOTAL NUMBER OF OBSERVATIONS = 8177  
 MEAN = 1.

\* DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF SULFUR DIOXIDE (UG/M\*\*3)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

10JR

| DAY  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 2    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 3    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 4    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 5    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 6    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 7    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 8    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 9    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 10   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 11   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 12   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 13   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 14   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 15   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 16   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 17   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 18   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 19   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 20   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 21   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 22   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 23   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 24   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 25   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 26   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 27   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 28   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 29   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 30   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| MEAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 8379 MEAN = 0.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF HYDROGEN SULFIDE (UG/M\*\*3)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| HOUR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
| 1    | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 2    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 3    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 4    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 5    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 6    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 7    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 8    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 9    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 10   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 11   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 12   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 13   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 14   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 15   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 16   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 17   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 18   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 19   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 20   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 21   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 22   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 23   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 24   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 25   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 26   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 27   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 28   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 29   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 30   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| MEAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 8358 MEAN = 0.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TOTAL HYDROCARBONS(UG/M\*\*3 X 10\*\*-1)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 106 | 114 | 114 | 105 | 98  | 110 | 112 | 107 | 99  | 108 | 101 | 102 | 112 |     | 118 | 108 | 113 | 117 | 117 | 114 | 116 | 115 | 108 | 114 | 110  |
| 2    | 106 |     | 127 | 127 | 118 | 119 | 121 | 119 | 121 | 122 | 114 | 129 | 126 | 126 | 129 | 126 | 122 | 121 | 125 | 126 | 124 | 124 | 125 | 133 | 123  |
| 3    | 128 | 127 | 126 | 127 | 126 | 125 | 128 | 130 | 120 | 135 | 130 | 126 | 132 | 133 | 132 | 132 | 132 | 133 | 129 | 129 | 127 | 126 | 125 | 123 | 129  |
| 4    | 122 | 115 | 122 | 123 | 123 | 123 | 122 | 120 | 126 | 124 | 127 | 128 | 121 |     | 117 |     |     |     | 114 | 110 |     |     |     | 114 | 121  |
| 5    | 118 | 124 | 123 | 124 | 125 | 122 | 125 | 125 | 117 |     | 125 | 124 | 131 | 115 | 129 |     |     | 108 | 115 | 110 | 101 |     | 104 | 112 | 120  |
| 6    | 111 | 117 | 117 | 110 | 118 | 116 | 116 | 110 | 119 | 118 | 117 | 121 | 118 | 106 | 118 | 123 | 124 | 125 | 126 | 124 | 124 | 124 | 125 | 124 | 119  |
| 7    | 125 | 124 | 124 | 123 | 123 | 124 | 125 | 128 | 132 | 131 | 122 | 127 | 129 | 131 | 130 | 132 | 133 | 133 | 132 | 129 | 129 | 127 | 127 | 126 | 128  |
| 8    | 125 | 125 | 125 | 125 | 125 | 125 | 126 | 127 | 129 | 130 | 116 | 120 | 124 | 126 | 128 | 128 | 129 | 128 | 127 | 125 | 125 | 125 | 126 | 128 | 126  |
| 9    | 127 | 125 | 125 | 124 | 125 | 126 | 126 | 127 | 129 | 130 | 129 | 128 | 126 | 126 | 126 | 126 | 126 | 127 | 126 | 126 | 125 | 124 | 123 | 124 | 126  |
| 10   | 124 | 124 | 120 | 124 | 123 | 123 | 124 | 129 | 130 | 129 | 128 | 116 | 119 | 126 | 123 | 124 | 126 | 126 | 125 | 124 | 123 | 124 | 126 | 127 | 124  |
| 11   | 127 | 126 | 125 | 126 | 126 | 126 | 128 | 133 | 132 | 123 | 121 | 123 | 125 | 127 | 128 | 128 | 127 | 126 | 121 | 120 | 120 | 120 | 122 | 126 | 125  |
| 12   | 124 | 124 | 122 | 122 | 122 | 123 | 123 | 125 | 129 | 132 | 134 |     |     |     | 90  | 97  | 88  | 88  | 88  | 87  | 92  | 89  | 95  | 91  | 109  |
| 13   | 86  | 97  | 109 | 110 | 98  | 108 | 116 | 118 | 118 | 112 | 103 | 101 | 109 | 93  | 97  | 94  | 100 | 98  | 94  | 99  | 100 | 101 | 109 | 108 | 103  |
| 14   | 108 | 107 | 101 | 101 | 98  | 95  | 102 | 110 | 116 | 110 | 116 | 114 | 112 | 105 | 93  | 109 | 103 | 100 | 101 | 110 | 110 | 101 | 101 | 102 | 105  |
| 15   | 101 | 108 | 113 | 112 | 116 | 115 | 108 | 113 | 104 | 110 | 117 | 119 | 118 | 117 | 135 | 119 | 110 | 102 | 111 | 107 | 110 | 105 | 118 | 112 | 112  |
| 16   | 114 | 122 | 122 | 117 | 113 | 117 | 116 | 124 | 131 | 123 | 116 | 108 | 105 | 114 | 123 | 123 | 111 | 108 | 107 | 116 | 110 | 112 | 105 | 103 | 115  |
| 17   | 104 | 103 | 105 | 103 | 102 | 103 | 103 | 103 | 113 | 102 | 103 | 93  | 87  | 91  | 85  | 85  | 86  | 84  | 92  | 87  | 87  | 88  | 85  | 85  | 95   |
| 18   | 89  | 90  | 89  | 87  | 86  | 88  | 89  | 88  | 95  | 88  | 87  |     | 86  | 96  | 143 | 132 | 141 | 148 | 145 | 143 | 143 | 145 | 142 | 142 | 111  |
| 19   | 140 | 140 | 141 | 140 | 144 | 142 | 149 | 143 | 145 | 144 | 138 |     | 124 | 134 | 134 | 133 | 133 | 135 | 133 | 133 | 132 | 133 | 133 | 132 | 137  |
| 20   | 135 | 136 | 135 | 135 | 136 | 135 | 137 | 137 | 134 |     |     |     | 106 | 115 | 122 |     |     |     |     | 135 | 134 | 139 | 124 | 139 | 131  |
| 21   | 127 | 142 | 147 | 148 | 145 | 144 | 152 | 160 | 152 |     |     | 125 | 116 | 120 | 119 | 121 | 125 | 126 | 128 | 128 | 127 | 126 | 126 | 126 | 133  |
| 22   | 126 | 126 | 125 | 125 | 125 | 126 | 128 | 130 | 134 | 129 | 133 | 131 | 124 | 128 | 123 | 120 | 133 | 128 | 142 | 143 | 137 | 130 | 127 | 126 | 129  |
| 23   | 127 | 127 | 127 | 127 | 127 | 125 | 127 | 130 | 134 | 140 | 147 | 142 | 140 | 138 | 138 | 137 | 138 | 135 | 134 | 131 | 130 | 129 | 128 | 127 | 133  |
| 24   | 128 | 127 | 127 | 126 | 126 | 125 | 128 | 130 | 129 | 127 | 132 | 130 | 132 | 132 | 133 | 132 | 132 | 132 | 130 | 130 | 127 | 128 | 128 | 128 | 129  |
| 25   | 127 | 127 | 126 |     | 125 | 125 | 127 | 128 | 121 | 114 | 120 | 126 | 130 | 121 | 122 | 116 | 121 | 125 | 126 | 126 | 127 | 127 | 127 | 126 | 124  |
| 26   | 126 | 126 | 125 |     | 125 | 125 | 126 | 130 | 133 | 134 | 134 | 135 | 130 | 130 | 127 | 124 | 127 | 130 | 130 | 127 | 127 | 127 | 127 | 127 | 128  |
| 27   | 126 | 126 | 125 |     | 125 | 126 | 127 | 129 | 126 | 109 |     | 108 | 102 | 104 | 109 | 112 | 112 | 109 | 108 | 109 | 108 | 111 | 108 | 107 | 115  |
| 28   | 106 | 107 | 106 |     | 108 | 108 | 108 | 111 | 105 | 108 | 111 | 112 | 101 | 105 | 110 | 110 | 109 | 107 | 108 | 109 | 108 | 107 | 108 | 108 | 108  |
| 29   | 108 | 108 | 108 |     | 107 | 108 | 109 | 110 | 114 | 118 | 109 | 111 | 113 | 116 | 118 | 120 | 121 | 120 | 120 | 118 | 116 | 115 | 115 | 115 | 114  |
| 30   | 114 | 113 | 113 |     | 113 | 112 | 114 | 118 | 121 | 123 | 123 | 123 | 123 | 127 | 122 | 122 | 121 | 120 | 119 | 117 | 116 | 116 | 118 | 117 | 118  |
| MEAN | 118 | 120 | 120 | 120 | 119 | 120 | 121 | 123 | 124 | 121 | 120 | 120 | 118 | 119 | 121 | 120 | 120 | 120 | 120 | 120 | 119 | 119 | 119 | 119 | 119  |

TOTAL NUMBER OF OBSERVATIONS = 7911 MEAN = 120.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF METHANE(UG/M\*\*3 X 10\*\*-1)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |    |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15 | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | 87   | 87  | 86  | 87  | 87  | 86  | 87  | 86  | 86  | 85  | 85  | 85  | 85  | 85  | 89 | 91  | 90  | 89  | 89  | 89  | 89  | 89  | 88  | 89  |
| 2    | 88   | 88  | 87  | 87  | 89  | 89  | 89  | 88  | 89  | 89  | 89  | 91  | 91  | 90  | 91 | 92  | 90  | 90  | 91  | 92  | 93  | 93  | 92  | 89  |
| 3    | 100  | 94  | 93  | 94  | 94  | 93  | 95  | 96  | 95  | 98  | 94  | 95  | 93  | 94  | 94 | 94  | 94  | 96  | 95  | 96  | 95  | 94  | 93  | 99  |
| 4    | 92   | 91  | 91  | 92  | 91  | 92  | 92  | 92  | 92  | 92  | 93  | 93  | 93  | 92  | 92 | 92  | 92  | 96  | 92  | 91  | 95  | 94  | 93  | 95  |
| 5    | 92   | 92  | 91  | 91  | 91  | 91  | 91  | 91  | 93  | 93  | 93  | 94  | 92  | 93  | 92 | 92  | 88  | 88  | 88  | 87  | 87  | 87  | 87  | 90  |
| 6    | 87   | 87  | 86  | 87  | 87  | 86  | 87  | 86  | 87  | 86  | 87  | 87  | 87  | 87  | 87 | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  |
| 7    | 86   | 86  | 85  | 86  | 86  | 85  | 86  | 86  | 86  | 87  | 87  | 87  | 87  | 87  | 87 | 87  | 86  | 86  | 87  | 86  | 86  | 86  | 86  | 86  |
| 8    | 86   | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86 | 86  | 86  | 86  | 86  | 85  | 86  | 86  | 86  | 86  |
| 9    | 86   | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86 | 86  | 87  | 87  | 87  | 86  | 86  | 85  | 86  | 86  |
| 10   | 85   | 85  | 85  | 85  | 85  | 86  | 85  | 86  | 86  | 86  | 86  | 86  | 87  | 86  | 86 | 86  | 86  | 86  | 86  | 85  | 85  | 85  | 85  | 85  |
| 11   | 87   | 87  | 87  | 89  | 89  | 88  | 90  | 91  | 89  | 85  | 85  | 84  | 85  | 85  | 86 | 86  | 86  | 86  | 85  | 86  | 85  | 85  | 86  | 86  |
| 12   | 87   | 86  | 86  | 86  | 86  | 86  | 86  | 88  | 90  | 90  | 91  | 87  | 87  | 85  | 85 | 87  | 87  | 87  | 87  | 87  | 86  | 86  | 86  | 87  |
| 13   | 86   | 86  | 86  | 86  | 89  | 88  | 88  | 89  | 87  | 86  | 86  | 85  | 85  | 85  | 84 | 85  | 85  | 85  | 85  | 85  | 85  | 84  | 86  | 86  |
| 14   | 84   | 84  | 84  | 84  | 84  | 84  | 85  | 84  | 85  | 85  | 85  | 85  | 85  | 85  | 84 | 85  | 85  | 85  | 85  | 85  | 85  | 84  | 85  | 84  |
| 15   | 100  | 100 | 101 | 101 | 102 | 103 | 103 | 103 | 103 | 99  | 86  | 85  | 85  | 85  | 84 | 108 | 99  | 99  | 101 | 100 | 100 | 101 | 101 | 100 |
| 16   | 101  | 103 | 103 | 104 | 104 | 105 | 106 | 105 | 110 | 107 | 104 | 104 | 103 | 103 | 98 | 99  | 101 | 101 | 101 | 102 | 101 | 101 | 101 | 101 |
| 17   | 104  | 103 | 104 | 103 | 102 | 103 | 103 | 102 | 102 | 102 | 100 | 86  | 86  | 85  | 85 | 85  | 85  | 84  | 85  | 85  | 86  | 86  | 85  | 104 |
| 18   | 88   | 90  | 88  | 87  | 86  | 88  | 89  | 87  | 88  | 88  | 87  | 87  | 86  | 86  | 87 | 84  | 86  | 90  | 87  | 87  | 87  | 87  | 87  | 87  |
| 19   | 85   | 86  | 86  | 86  | 88  | 88  | 93  | 89  | 89  | 88  | 87  | 87  | 86  | 86  | 87 | 87  | 87  | 88  | 87  | 87  | 87  | 87  | 87  | 87  |
| 20   | 88   | 89  | 88  | 88  | 87  | 86  | 87  | 87  | 88  | 88  | 87  | 87  | 87  | 87  | 87 | 87  | 87  | 88  | 87  | 87  | 87  | 87  | 87  | 87  |
| 21   | 94   | 95  | 95  | 95  | 95  | 95  | 95  | 96  | 96  | 97  | 103 | 94  | 94  | 95  | 96 | 96  | 96  | 96  | 95  | 96  | 96  | 96  | 95  | 90  |
| 22   | 95   | 95  | 95  | 95  | 94  | 95  | 95  | 94  | 95  | 97  | 103 | 99  | 97  | 96  | 96 | 96  | 96  | 96  | 95  | 95  | 95  | 95  | 95  | 95  |
| 23   | 95   | 95  | 94  | 95  | 95  | 93  | 93  | 94  | 93  | 97  | 102 | 97  | 96  | 96  | 96 | 95  | 95  | 95  | 95  | 95  | 95  | 95  | 94  | 97  |
| 24   | 95   | 96  | 95  | 95  | 95  | 95  | 95  | 95  | 95  | 102 | 101 | 97  | 97  | 97  | 96 | 96  | 96  | 96  | 95  | 96  | 96  | 96  | 97  | 96  |
| 25   | 96   | 96  | 96  | 96  | 95  | 95  | 95  | 94  | 95  | 96  | 96  | 97  | 97  | 96  | 96 | 96  | 96  | 96  | 95  | 95  | 95  | 95  | 95  | 96  |
| 26   | 95   | 95  | 95  | 95  | 94  | 95  | 95  | 95  | 95  | 95  | 96  | 96  | 95  | 96  | 95 | 95  | 94  | 94  | 94  | 94  | 94  | 94  | 94  | 95  |
| 27   | 94   | 94  | 94  | 94  | 94  | 94  | 93  | 94  | 94  | 90  | 89  | 89  | 89  | 88  | 88 | 88  | 88  | 88  | 88  | 88  | 88  | 88  | 88  | 90  |
| 28   | 88   | 88  | 88  | 88  | 88  | 88  | 87  | 88  | 90  | 89  | 89  | 90  | 86  | 86  | 85 | 86  | 86  | 86  | 85  | 85  | 85  | 85  | 85  | 87  |
| 29   | 85   | 85  | 85  | 85  | 85  | 85  | 85  | 85  | 85  | 85  | 81  | 86  | 87  | 86  | 86 | 86  | 86  | 86  | 86  | 85  | 86  | 85  | 85  | 85  |
| 30   | 86   | 87  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 86  | 87  | 87  | 87  | 87  | 87 | 87  | 87  | 87  | 86  | 86  | 86  | 86  | 86  | 86  |
| MEAN | 91   | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 90  | 90  | 90 | 91  | 90  | 91  | 91  | 91  | 91  | 91  | 90  | 91  |

TOTAL NUMBER OF OBSERVATIONS = 7924 MEAN = 91.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NON-METHANE HYDROCARBONS(UG/M\*\*3 X 10\*\*-1)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 19 | 27 | 27 | 18 | 10 | 23 | 25 | 21 | 13 | 23 | 16 | 17 | 26 | 36 | 29 | 17 | 23 | 28 | 28 | 25 | 26 | 26 | 20 | 25 | 22   |
| 2    | 17 |    |    |    | 29 | 30 | 32 | 30 | 33 | 34 | 24 | 38 | 35 | 36 | 37 | 34 | 32 | 31 | 34 | 34 | 31 | 31 | 33 | 34 | 32   |
| 3    | 28 | 33 | 32 | 33 | 32 | 32 | 33 | 34 | 25 | 38 | 36 | 31 | 39 | 39 | 38 | 38 | 37 | 37 | 34 | 33 | 32 | 32 | 32 | 30 | 34   |
| 4    | 30 | 24 | 30 | 30 | 32 | 31 | 30 | 29 | 34 | 31 | 34 | 35 | 28 | 22 | 25 |    |    |    | 23 | 19 |    |    |    | 22 | 29   |
| 5    | 25 | 32 | 32 | 34 | 34 | 31 | 34 | 34 | 24 |    | 32 | 29 | 38 | 22 | 37 | 37 | 38 | 20 | 28 | 23 | 14 |    | 17 | 25 | 29   |
| 6    | 25 | 30 | 30 | 24 | 31 | 30 | 30 | 24 | 33 | 31 | 31 | 35 | 31 | 19 | 32 | 37 | 38 | 40 | 40 | 39 | 38 | 39 | 38 | 38 | 33   |
| 7    | 39 | 38 | 39 | 37 | 37 | 38 | 39 | 42 | 46 | 45 | 35 | 40 | 42 | 44 | 44 | 45 | 47 | 46 | 45 | 43 | 43 | 40 | 41 | 40 | 41   |
| 8    | 39 | 39 | 39 | 39 | 39 | 39 | 40 | 42 | 46 | 47 | 29 | 34 | 38 | 39 | 41 | 41 | 43 | 42 | 41 | 40 | 39 | 40 | 40 | 42 | 40   |
| 9    | 41 | 39 | 39 | 38 | 39 | 40 | 39 | 41 | 43 | 44 | 42 | 42 | 40 | 39 | 40 | 39 | 39 | 40 | 39 | 40 | 39 | 40 | 38 | 39 | 40   |
| 10   | 39 | 38 | 34 | 38 | 38 | 37 | 39 | 44 | 44 | 43 | 43 | 30 | 32 | 40 | 36 | 38 | 39 | 40 | 39 | 39 | 38 | 47 | 40 | 39 | 40   |
| 11   | 39 | 39 | 38 | 37 | 37 | 37 | 38 | 42 | 43 | 38 | 36 | 38 | 41 | 41 | 42 | 42 | 41 | 40 | 35 | 34 | 34 | 35 | 36 | 38 | 38   |
| 12   | 38 | 38 | 36 | 36 | 35 | 37 | 37 | 37 | 39 | 42 | 43 | 38 | 41 | 41 | 52 | 10 | 2  | 1  | 1  | 0  | 6  | 2  | 9  | 6  | 22   |
| 13   | 0  | 12 | 23 | 23 | 9  | 20 | 28 | 29 | 30 | 26 | 17 | 15 | 23 | 8  | 13 | 9  | 16 | 13 | 9  | 13 | 16 | 17 | 24 | 23 | 17   |
| 14   | 23 | 22 | 17 | 16 | 14 | 11 | 17 | 26 | 30 | 25 | 31 | 29 | 28 | 20 | 8  | 2  | 4  | 1  | 0  | 10 | 10 | 0  | 0  | 2  | 15   |
| 15   | 1  | 8  | 12 | 11 | 14 | 12 | 5  | 10 | 1  | 11 | 15 | 16 | 16 | 15 | 37 | 20 | 9  | 2  | 10 | 6  | 9  | 3  | 16 | 11 | 11   |
| 16   | 13 | 19 | 19 | 13 | 9  | 11 | 10 | 18 | 20 | 15 | 11 | 4  | 2  | 11 | 21 | 20 | 7  | 4  | 4  | 12 | 7  | 8  | 2  | 0  | 11   |
| 17   | 0  | 0  | 2  | 0  | 0  | 0  | 0  | 1  | 11 | 0  | 3  | 7  | 1  | 6  | 0  | 0  | 1  | 0  | 7  | 2  | 1  | 1  | 0  | 0  | 2    |
| 18   | 1  | 0  | 2  | 0  | 0  | 0  | 0  | 1  | 7  | 0  | 0  | 1  | 0  | 10 | 44 | 47 | 55 | 58 | 57 | 56 | 57 | 58 | 56 | 56 | 24   |
| 19   | 54 | 54 | 54 | 53 | 55 | 54 | 56 | 54 | 55 | 57 | 52 | 52 | 46 | 47 | 47 | 46 | 46 | 46 | 46 | 46 | 45 | 46 | 46 | 45 | 50   |
| 20   | 47 | 47 | 47 | 47 | 49 | 49 | 50 | 50 | 46 |    |    |    | 18 | 28 | 35 |    |    |    |    | 39 | 37 | 43 | 29 | 44 | 42   |
| 21   | 32 | 47 | 53 | 53 | 50 | 49 | 57 | 64 | 56 |    |    | 31 | 22 | 24 | 22 | 25 | 29 | 30 | 33 | 33 | 31 | 30 | 30 | 30 | 37   |
| 22   | 31 | 30 | 30 | 30 | 31 | 31 | 33 | 35 | 39 | 32 | 30 | 32 | 28 | 31 | 26 | 24 | 37 | 33 | 36 | 38 | 35 | 34 | 33 | 32 | 32   |
| 23   | 31 | 32 | 33 | 33 | 33 | 32 | 33 | 36 | 41 | 43 | 44 | 45 | 44 | 42 | 42 | 42 | 43 | 40 | 38 | 35 | 35 | 33 | 33 | 31 | 37   |
| 24   | 32 | 31 | 31 | 31 | 31 | 30 | 33 | 35 | 32 | 25 | 31 | 34 | 35 | 35 | 36 | 36 | 35 | 36 | 35 | 34 | 32 | 31 | 32 | 31 | 33   |
| 25   | 31 | 31 | 30 |    | 29 | 29 | 32 | 34 | 26 | 18 | 24 | 29 | 33 | 25 | 25 | 20 | 25 | 29 | 31 | 31 | 31 | 32 | 31 | 31 | 29   |
| 26   | 31 | 31 | 30 |    | 30 | 30 | 31 | 34 | 37 | 39 | 39 | 40 | 35 | 34 | 31 | 29 | 32 | 35 | 35 | 33 | 33 | 34 | 33 | 33 | 33   |
| 27   | 32 | 32 | 31 |    | 30 | 32 | 33 | 35 | 31 | 19 |    | 18 | 13 | 16 | 20 | 24 | 24 | 21 | 20 | 21 | 21 | 23 | 19 | 19 | 25   |
| 28   | 18 | 19 | 18 |    | 20 | 20 | 21 | 22 | 15 | 19 | 22 | 22 | 15 | 20 | 24 | 25 | 23 | 22 | 23 | 24 | 23 | 23 | 23 | 23 | 21   |
| 29   | 23 | 23 | 22 |    | 22 | 22 | 24 | 25 | 29 | 32 | 27 | 24 | 26 | 30 | 32 | 34 | 35 | 34 | 35 | 32 | 31 | 30 | 30 | 29 | 28   |
| 30   | 27 | 26 | 27 |    | 27 | 26 | 28 | 31 | 34 | 37 | 36 | 36 | 36 | 40 | 35 | 35 | 34 | 33 | 33 | 30 | 31 | 30 | 31 | 30 | 32   |
| MEAN | 27 | 29 | 30 | 29 | 28 | 29 | 30 | 32 | 32 | 30 | 29 | 29 | 28 | 29 | 30 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 29 | 28 | 28   |

TOTAL NUMBER OF OBSERVATIONS = 7909 MEAN = 30.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF CARBON MONOXIDE (UG/M\*\*3 X 10\*\*+1)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | HOUR |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2  | 3  | 4   | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1    | 33   | 32 | 33 | 32  | 32 | 32 | 33 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 48 | 50 | 46 | 47 | 45 | 46 | 45 | 43 | 44 | 45 |
| 2    | 45   | 43 | 44 | 42  | 43 | 43 | 41 | 40 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3    |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4    |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5    |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 6    | 40   | 38 | 39 | 39  | 38 | 39 | 39 | 36 | 36 | 37 | 38 | 39 | 38 |    |    |    |    | 43 | 41 | 41 | 40 | 40 | 40 | 40 |
| 7    |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 8    |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 9    |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 10   |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 11   |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 12   | 38   | 37 | 39 | 37  | 39 | 38 | 38 | 38 | 37 | 38 | 39 | 38 | 38 | 40 | 39 | 41 | 41 | 39 | 39 | 39 | 38 | 37 | 38 | 38 |
| 13   | 38   | 38 | 38 | 38  | 38 | 38 | 38 | 38 | 39 | 39 | 39 | 39 | 38 | 38 | 39 | 38 | 39 | 39 | 38 | 37 | 38 | 38 | 38 | 37 |
| 14   | 50   | 50 | 51 | 51  | 51 | 51 | 52 | 52 | 51 | 58 | 51 | 52 | 52 | 53 | 49 | 55 | 53 | 51 | 52 | 51 | 51 | 51 | 50 | 50 |
| 15   | 53   | 52 | 53 | 53  | 54 | 50 | 53 | 51 | 53 | 54 | 52 | 52 | 54 | 52 | 52 | 51 | 52 | 54 | 54 | 52 | 52 | 52 | 52 | 51 |
| 16   | 54   | 48 | 50 | 48  | 48 | 46 | 50 | 49 | 49 | 50 | 50 | 52 | 54 | 52 | 37 | 38 | 37 | 50 | 50 | 49 | 50 | 51 | 48 | 49 |
| 17   | 36   | 35 | 36 | 34  | 35 | 34 | 35 | 34 | 35 | 35 | 36 | 38 | 40 | 41 | 37 | 49 | 40 | 40 | 40 | 37 | 36 | 38 | 35 | 35 |
| 18   | 36   | 37 | 38 | 37  | 37 | 37 | 37 | 38 | 37 | 38 | 38 | 38 | 46 | 45 | 44 | 44 | 46 | 40 | 40 | 39 | 39 | 39 | 38 | 38 |
| 19   | 91   | 93 | 67 | 126 | 77 | 49 | 45 | 47 | 53 |    |    |    | 46 | 45 | 44 | 44 | 46 | 55 | 57 | 72 | 61 | 49 | 53 | 93 |
| 20   | 41   | 42 | 42 | 42  | 42 | 41 | 42 | 42 | 41 |    |    |    | 36 | 37 | 38 |    |    | 65 | 56 | 46 | 43 | 65 | 42 | 42 |
| 21   |      |    |    |     |    |    |    |    |    |    |    | 65 | 64 | 64 | 60 | 61 | 61 | 64 | 68 | 67 | 70 | 71 | 74 | 73 |
| 22   |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 23   | 52   | 46 | 49 | 48  | 50 | 52 | 50 | 49 | 50 | 49 | 50 | 50 | 51 | 52 | 53 | 49 | 49 | 49 | 48 | 49 | 48 | 46 | 48 | 47 |
| 24   | 45   | 46 | 43 | 44  | 45 | 45 | 45 | 43 | 45 | 46 | 46 | 44 | 46 | 44 | 43 | 41 | 42 | 42 | 42 | 47 | 41 | 39 | 39 | 40 |
| 25   | 34   | 36 | 39 |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 26   |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 27   |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 28   |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 29   |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 30   |      |    |    |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MEAN | 46   | 45 | 44 | 44  | 45 | 42 | 43 | 42 | 43 | 43 | 42 | 45 | 44 | 45 | 45 | 47 | 47 | 48 | 48 | 48 | 48 | 47 | 46 | 48 |

TOTAL NUMBER OF OBSERVATIONS = 3766 MEAN = 46.

: INDICATES CALIBRATION DURING THE HOUR

**DIURNAL VARIATION OF OZONE(UG/M\*\*3)**

**HOUR**

| DAY  | 1  | 2  | 3  | 4  | 5  | 6   | 7  | 8  | 9  | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|-----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|------|
| 1    | 94 | 87 | 83 | 83 | 92 | 89  | 90 | 89 | 86 | 96  | 98  | 103 | 103 | 102 | 103 | 105 | 105 | 104 | 105 | 101 | 95 | 97 | 95 | 93 | 96   |
| 2    | 88 | 83 | 83 | 90 | 83 | 78  | 82 | 79 | 78 | 80  | 80  | 80  | 81  | 83  | 88  | 92  | 98  | 98  | 82  | 99  | 96 | 93 | 90 | 79 | 86   |
| 3    | 81 | 79 | 80 | 73 | 80 | 77  | 74 | 78 | 81 | 82  | 84  | 90  | 94  | 95  | 97  | 100 | 101 | 101 | 96  | 91  | 80 | 81 | 85 | 80 | 86   |
| 4    | 78 | 74 | 76 | 80 | 83 | 78  | 74 | 71 | 79 | 82  | 82  | 80  | 80  | 79  | 74  | 74  | 73  | 72  | 71  | 67  | 64 | 63 | 57 | 51 | 73   |
| 5    | 53 | 56 | 56 | 55 | 51 | 56  | 50 | 51 | 62 | 67  | 70  | 69  | 72  | 74  | 75  | 77  | 77  | 79  | 80  | 72  | 70 | 65 | 68 | 66 | 65   |
| 6    | 65 | 70 | 73 | 69 | 60 | 66  | 68 | 63 | 65 | 83  | 84  | 85  | 85  | 81  | 80  | 80  | 79  | 78  | 73  | 65  | 67 | 72 | 73 | 73 | 73   |
| 7    | 71 | 72 | 68 | 67 | 71 | 72  | 68 | 65 | 69 | 76  | 83  | 84  | 83  | 82  | 82  | 83  | 83  | 82  | 77  | 69  | 68 | 68 | 75 | 69 | 74   |
| 8    | 71 | 70 | 69 | 71 | 74 | 70  | 67 | 66 | 78 | 84  | 89  | 87  | 89  | 92  | 92  | 93  | 93  | 94  | 88  | 79  | 77 | 79 | 81 | 83 | 81   |
| 9    | 82 | 82 | 82 | 83 | 83 | 87  | 83 | 88 | 96 | 97  | 98  | 98  | 97  | 96  | 100 | 100 | 101 | 102 | 99  | 91  | 84 | 81 | 78 | 80 | 90   |
| 10   | 79 | 80 | 78 | 71 | 77 | 79  | 82 | 87 | 91 | 92  | 91  | 91  | 93  | 92  | 96  | 99  | 101 | 101 | 95  | 84  | 86 | 77 | 75 | 76 | 86   |
| 11   | 75 | 76 | 73 | 69 | 67 | 60  | 60 | 59 | 68 | 85  | 83  | 83  | 85  | 85  | 86  | 85  | 87  | 87  | 87  | 76  | 65 | 55 | 55 | 73 | 74   |
| 12   | 75 | 83 | 75 | 66 | 60 | 67  | 65 | 58 | 59 | 64  | 69  | 75  | 74  | 76  | 75  | 77  | 78  | 76  | 62  | 49  | 37 | 41 | 50 | 50 | 55   |
| 13   | 43 | 50 | 44 | 47 | 52 | 42  | 39 | 48 | 64 | 67  | 79  | 98  | 106 | 109 | 113 | 116 | 113 | 106 | 98  | 86  | 91 | 94 | 99 | 86 | 79   |
| 14   | 97 | 83 | 90 | 09 | 98 | 103 | 96 | 95 | 90 | 93  | 99  | 102 | 105 | 103 | 104 | 103 | 101 | 96  | 90  | 88  | 93 | 75 | 71 | 72 | 94   |
| 15   | 69 | 67 | 70 | 69 | 68 | 67  | 70 | 71 | 69 | 66  | 62  | 56  | 54  | 55  | 63  | 64  | 65  | 64  | 62  | 60  | 58 | 56 | 52 | 50 | 63   |
| 16   | 49 | 44 | 49 | 46 | 42 | 50  | 47 | 52 | 53 | 66  | 70  | 71  | 72  | 73  | 75  | 78  | 80  | 82  | 79  | 66  | 51 | 59 | 58 | 62 | 61   |
| 17   | 61 | 59 | 57 | 56 | 59 | 67  | 61 | 54 | 67 | 81  | 68  | 97  | 95  | 93  | 94  | 93  | 89  | 84  | 81  | 75  | 76 | 81 | 74 | 68 | 75   |
| 18   | 66 | 62 | 54 | 53 | 56 | 51  | 46 | 48 | 74 | 77  | 81  | 85  | 85  | 84  | 85  | 87  | 86  | 74  | 68  | 62  | 64 | 73 | 73 | 77 | 74   |
| 19   | 75 | 74 | 74 | 73 | 72 | 71  | 71 | 76 | 82 | 85  | 85  | 85  | 85  | 84  | 85  | 87  | 86  | 88  | 76  | 61  | 61 | 54 | 58 | 60 | 75   |
| 20   | 54 | 51 | 56 | 58 | 59 | 60  | 58 | 60 | 63 | 67  | 81  | 85  | 85  | 80  | 93  | 102 | 97  | 96  | 85  | 82  | 82 | 79 | 74 | 68 | 73   |
| 21   | 72 | 68 | 66 | 61 | 64 | 73  | 63 | 65 | 70 | 63  | 99  | 99  | 98  | 95  | 94  | 98  | 97  | 94  | 87  | 81  | 74 | 80 | 82 | 78 | 79   |
| 22   | 83 | 81 | 71 | 70 | 59 | 60  | 55 | 66 | 79 | 96  | 94  | 100 | 101 | 102 | 100 | 98  | 97  | 94  | 90  | 71  | 75 | 83 | 80 | 82 | 83   |
| 23   | 74 | 70 | 50 | 67 | 71 | 79  | 73 | 73 | 72 | 87  | 93  | 98  | 99  | 100 | 101 | 100 | 100 | 102 | 103 | 100 | 91 | 84 | 84 | 75 | 85   |
| 24   | 68 | 68 | 83 | 86 | 83 | 85  | 61 | 65 | 82 | 96  | 102 | 102 | 102 | 102 | 102 | 103 | 104 | 102 | 95  | 93  | 81 | 81 | 78 | 73 | 88   |
| 25   | 69 | 65 | 72 | 72 | 69 | 77  | 59 | 66 | 81 | 94  | 103 | 105 | 106 | 104 | 103 | 104 | 103 | 101 | 103 | 94  | 91 | 90 | 89 | 93 | 88   |
| 26   | 93 | 87 | 80 | 84 | 87 | 82  | 80 | 83 | 94 | 94  | 102 | 102 | 101 | 102 | 102 | 102 | 104 | 103 | 98  | 88  | 89 | 83 | 85 | 87 | 93   |
| 27   | 45 | 86 | 80 | 84 | 80 | 84  | 91 | 69 | 86 | 101 | 104 | 101 | 101 | 97  | 100 | 101 | 102 | 96  | 91  | 96  | 88 | 78 | 73 | 75 | 88   |
| 28   | 77 | 64 | 60 | 59 | 65 | 59  | 49 | 75 | 84 | 93  | 96  | 98  | 101 | 100 | 100 | 96  | 96  | 92  | 87  | 82  | 78 | 78 | 76 | 77 | 81   |
| 29   | 75 | 73 | 75 | 70 | 70 | 65  | 55 | 61 | 75 | 86  | 94  | 97  | 96  | 99  | 98  | 99  | 100 | 98  | 83  | 80  | 80 | 84 | 86 | 82 | 83   |
| 30   | 82 | 78 | 81 | 85 | 86 | 82  | 77 | 79 | 93 | 104 | 104 | 105 | 106 | 105 | 103 | 103 | 104 | 104 | 101 | 88  | 84 | 86 | 88 | 86 | 92   |
| MEAN | 73 | 71 | 71 | 70 | 71 | 71  | 67 | 69 | 76 | 85  | 86  | 91  | 92  | 92  | 93  | 94  | 94  | 91  | 87  | 80  | 77 | 76 | 75 | 74 | 74   |

TOTAL NUMBER OF OBSERVATIONS = 3408 MEAN = 81.

: INDICATES CALIBRATION DURING THE HOUR

HOURLY TOTAL PRECIPITATION (HUNDREDTHS OF INCHES)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | TOTAL |
|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| 1     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 2     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 3     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 4     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 5     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 6     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 7     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 8     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 9     | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 10    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 11    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 12    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 13    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 14    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 15    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 16    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 17    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 18    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 19    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 20    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 21    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 22    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 23    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 24    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 25    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 26    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 27    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 28    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 29    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| 30    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| TOTAL | 0 | 1 | 0 | 3 | 1 | 4 | 9 | 2 | 0 | 6  | 0  | 6  | 6  | 5  | 1  | 1  | 0  | 1  | 1  | 3  | 1  | 0  | 0  | 0  | 0     |

TOTAL NUMBER OF OBSERVATIONS = 8554 TOTAL = 50.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND SPEED AT 8 FEET(MPH)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2 | 3  | 4 | 5 | 6 | 7 | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|---|----|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 1  | 1 | 0  | 2 | 1 | 1 | 2 | 1  | 1  | 2  | 1  | 1  | 2  | 1  | 1  | 2  | 1  | 1  | 2  | 1  | 1  | 2  | 1  | 1  | 2    |
| 2    | 2  | 0 | 1  | 2 | 2 | 1 | 1 | 2  | 5  | 4  | 2  | 6  | 0  | 1  | 2  | 1  | 1  | 2  | 6  | 0  | 1  | 1  | 2  | 1  | 1    |
| 3    | 2  | 4 | 1  | 1 | 2 | 1 | 2 | 1  | 4  | 3  | 2  | 1  | 1  | 2  | 3  | 2  | 1  | 1  | 2  | 3  | 2  | 1  | 1  | 2  | 3    |
| 4    | 2  | 3 | 1  | 0 | 1 | 2 | 1 | 1  | 2  | 3  | 2  | 1  | 1  | 2  | 3  | 2  | 1  | 1  | 2  | 3  | 2  | 1  | 1  | 2  | 3    |
| 5    | 3  | 1 | 2  | 0 | 1 | 1 | 1 | 1  | 5  | 3  | 3  | 2  | 1  | 3  | 4  | 0  | 1  | 2  | 5  | 0  | 0  | 2  | 1  | 3  | 4    |
| 6    | 2  | 2 | 1  | 0 | 1 | 0 | 2 | 1  | 6  | 2  | 4  | 2  | 1  | 2  | 4  | 0  | 0  | 1  | 4  | 0  | 1  | 1  | 1  | 2  | 2    |
| 7    | 4  | 6 | 2  | 1 | 0 | 1 | 2 | 1  | 7  | 2  | 3  | 1  | 3  | 1  | 6  | 0  | 0  | 0  | 4  | 0  | 1  | 1  | 0  | 1  | 2    |
| 8    | 2  | 3 | 3  | 1 | 0 | 1 | 2 | 3  | 7  | 8  | 3  | 0  | 4  | 3  | 5  | 1  | 1  | 1  | 5  | 0  | 1  | 1  | 1  | 1  | 2    |
| 9    | 2  | 6 | 4  | 0 | 0 | 2 | 2 | 6  | 9  | 13 | 14 | 7  | 6  | 2  | 2  | 4  | 5  | 2  | 1  | 1  | 4  | 4  | 2  | 1  | 1    |
| 10   | 5  | 6 | 7  | 2 | 4 | 2 | 2 | 8  | 13 | 14 | 7  | 6  | 1  | 9  | 5  | 0  | 2  | 2  | 5  | 5  | 2  | 2  | 5  | 5  | 2    |
| 11   | 8  | 5 | 8  | 4 | 2 | 3 | 4 | 12 | 16 | 14 | 4  | 5  | 4  | 11 | 5  | 0  | 2  | 4  | 8  | 6  | 4  | 4  | 5  | 6  | 4    |
| 12   | 7  | 7 | 10 | 7 | 1 | 4 | 6 | 11 | 17 | 13 | 3  | 5  | 9  | 13 | 4  | 3  | 3  | 7  | 8  | 5  | 5  | 5  | 5  | 5  | 5    |
| 13   | 10 | 4 | 12 | 8 | 3 | 5 | 6 | 10 | 18 | 14 | 10 | 4  | 14 | 13 | 3  | 5  | 5  | 13 | 8  | 9  | 5  | 6  | 6  | 8  | 7    |
| 14   | 7  | 5 | 12 | 6 | 3 | 6 | 6 | 8  | 17 | 14 | 11 | 3  | 15 | 10 | 3  | 6  | 5  | 12 | 7  | 7  | 5  | 5  | 7  | 6  | 9    |
| 15   | 5  | 7 | 10 | 7 | 3 | 5 | 5 | 11 | 16 | 12 | 13 | 4  | 12 | 12 | 4  | 5  | 4  | 13 | 5  | 9  | 4  | 5  | 5  | 9  | 6    |
| 16   | 7  | 5 | 11 | 6 | 3 | 6 | 3 | 10 | 16 | 10 | 13 | 3  | 9  | 11 | 5  | 6  | 5  | 10 | 4  | 9  | 3  | 5  | 5  | 9  | 8    |
| 17   | 7  | 5 | 8  | 3 | 4 | 5 | 4 | 11 | 13 | 10 | 12 | 1  | 6  | 11 | 6  | 4  | 3  | 11 | 2  | 9  | 0  | 2  | 4  | 1  | 2    |
| 18   | 8  | 6 | 7  | 3 | 2 | 5 | 4 | 8  | 11 | 8  | 14 | 1  | 3  | 9  | 6  | 3  | 6  | 13 | 1  | 9  | 2  | 5  | 6  | 8  | 7    |
| 19   | 12 | 6 | 3  | 6 | 0 | 3 | 2 | 4  | 6  | 4  | 8  | 0  | 2  | 14 | 4  | 2  | 1  | 12 | 0  | 5  | 3  | 4  | 7  | 6  | 1    |
| 20   | 6  | 3 | 1  | 3 | 1 | 3 | 3 | 4  | 5  | 4  | 4  | 1  | 3  | 12 | 2  | 1  | 2  | 9  | 0  | 2  | 4  | 1  | 2  | 2  | 4    |
| 21   | 1  | 1 | 2  | 2 | 2 | 2 | 3 | 5  | 5  | 2  | 2  | 2  | 3  | 9  | 3  | 2  | 5  | 8  | 0  | 1  | 2  | 2  | 2  | 2  | 4    |
| 22   | 2  | 1 | 2  | 2 | 1 | 3 | 3 | 5  | 5  | 3  | 1  | 3  | 4  | 4  | 2  | 5  | 10 | 0  | 2  | 2  | 2  | 2  | 2  | 2  | 5    |
| 23   | 3  | 3 | 3  | 4 | 0 | 3 | 2 | 6  | 1  | 3  | 3  | 2  | 3  | 1  | 1  | 5  | 8  | 0  | 1  | 1  | 2  | 1  | 3  | 2  | 2    |
| 24   | 3  | 1 | 2  | 1 | 1 | 2 | 2 | 9  | 4  | 3  | 4  | 1  | 2  | 3  | 1  | 1  | 4  | 9  | 0  | 1  | 1  | 1  | 2  | 3  | 2    |
| 25   | 5  | 4 | 5  | 3 | 2 | 3 | 3 | 6  | 9  | 7  | 6  | 3  | 4  | 7  | 4  | 2  | 3  | 6  | 4  | 3  | 2  | 3  | 3  | 4  | 3    |
| 26   | 5  | 4 | 5  | 3 | 2 | 3 | 3 | 6  | 9  | 7  | 6  | 3  | 4  | 7  | 4  | 2  | 3  | 6  | 4  | 3  | 2  | 3  | 3  | 4  | 3    |
| 27   | 5  | 4 | 5  | 3 | 2 | 3 | 3 | 6  | 9  | 7  | 6  | 3  | 4  | 7  | 4  | 2  | 3  | 6  | 4  | 3  | 2  | 3  | 3  | 4  | 3    |
| 28   | 5  | 4 | 5  | 3 | 2 | 3 | 3 | 6  | 9  | 7  | 6  | 3  | 4  | 7  | 4  | 2  | 3  | 6  | 4  | 3  | 2  | 3  | 3  | 4  | 3    |
| 29   | 5  | 4 | 5  | 3 | 2 | 3 | 3 | 6  | 9  | 7  | 6  | 3  | 4  | 7  | 4  | 2  | 3  | 6  | 4  | 3  | 2  | 3  | 3  | 4  | 3    |
| 30   | 5  | 4 | 5  | 3 | 2 | 3 | 3 | 6  | 9  | 7  | 6  | 3  | 4  | 7  | 4  | 2  | 3  | 6  | 4  | 3  | 2  | 3  | 3  | 4  | 3    |
| MEAN | 2  | 2 | 2  | 2 | 2 | 2 | 2 | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2    |

TOTAL NUMBER OF OBSERVATIONS = 8541 MEAN = 5.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 30 FEET(MPH)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3 | 4 | 5 | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 2  | 2  | 1 | 4 | 2 | 2  | 3  | 3  | 6  | 8  | 10 | 9  | 13 | 10 | 6  | 9  | 9  | 11 | 16 | 9  | 3  | 4  | 5  | 5  | 7    |
| 2    | 2  | 3  | 3 | 2 | 4 | 3  | 4  | 4  | 8  | 9  | 7  | 10 | 6  | 7  | 9  | 7  | 6  | 8  | 9  | 4  | 2  | 2  | 5  | 3  | 6    |
| 3    | 1  | 3  | 2 | 1 | 2 | 1  | 2  | 2  | 3  | 3  | 11 | 13 | 16 | 16 | 14 | 14 | 11 | 10 | 6  | 2  | 4  | 4  | 5  | 5  | 5    |
| 4    | 2  | 3  | 2 | 2 | 2 | 2  | 2  | 1  | 0  | 3  | 5  | 9  | 10 | 8  | 9  | 8  | 5  | 4  | 0  | 5  | 4  | 3  | 1  | 3  | 2    |
| 5    | 2  | 2  | 4 | 2 | 2 | 2  | 1  | 2  | 3  | 6  | 4  | 3  | 4  | 4  | 4  | 5  | 5  | 3  | 6  | 1  | 5  | 4  | 5  | 2  | 4    |
| 6    | 3  | 2  | 2 | 3 | 2 | 2  | 3  | 4  | 3  | 3  | 5  | 8  | 6  | 7  | 7  | 4  | 6  | 7  | 4  | 6  | 3  | 4  | 2  | 5  | 4    |
| 7    | 3  | 1  | 4 | 2 | 3 | 4  | 4  | 5  | 8  | 2  | 15 | 14 | 13 | 11 | 14 | 13 | 14 | 11 | 6  | 5  | 6  | 5  | 2  | 4  | 4    |
| 8    | 1  | 2  | 1 | 2 | 3 | 2  | 10 | 11 | 11 | 16 | 20 | 21 | 22 | 21 | 20 | 20 | 17 | 15 | 8  | 7  | 10 | 7  | 9  | 13 | 13   |
| 9    | 13 | 10 | 7 | 4 | 9 | 10 | 5  | 10 | 16 | 17 | 17 | 16 | 18 | 18 | 15 | 12 | 13 | 10 | 6  | 7  | 2  | 4  | 2  | 6  | 6    |
| 10   | 6  | 6  | 4 | 6 | 6 | 4  | 4  | 4  | 8  | 10 | 6  | 5  | 13 | 15 | 6  | 5  | 16 | 18 | 11 | 5  | 2  | 5  | 5  | 7  | 10   |
| 11   | 4  | 4  | 2 | 3 | 4 | 4  | 2  | 1  | 4  | 2  | 7  | 7  | 5  | 4  | 15 | 12 | 8  | 1  | 2  | 6  | 4  | 2  | 5  | 7  | 4    |
| 12   | 3  | 5  | 2 | 1 | 4 | 2  | 3  | 7  | 6  | 12 | 14 | 16 | 17 | 19 | 15 | 14 | 14 | 5  | 3  | 7  | 7  | 5  | 4  | 3  | 6    |
| 13   | 3  | 2  | 5 | 5 | 6 | 3  | 3  | 8  | 8  | 7  | 7  | 5  | 5  | 5  | 5  | 7  | 5  | 12 | 19 | 17 | 12 | 8  | 5  | 2  | 5    |
| 14   | 2  | 3  | 3 | 2 | 1 | 1  | 1  | 1  | 4  | 1  | 1  | 5  | 6  | 8  | 7  | 7  | 5  | 8  | 3  | 4  | 8  | 3  | 2  | 2  | 3    |
| 15   | 5  | 2  | 5 | 5 | 3 | 6  | 7  | 5  | 6  | 7  | 7  | 5  | 5  | 7  | 5  | 16 | 15 | 18 | 6  | 4  | 7  | 5  | 8  | 5  | 10   |
| 16   | 3  | 1  | 3 | 2 | 1 | 1  | 1  | 1  | 3  | 3  | 3  | 4  | 6  | 7  | 5  | 13 | 13 | 12 | 3  | 1  | 11 | 13 | 11 | 0  | 12   |
| 17   | 1  | 4  | 4 | 5 | 6 | 5  | 1  | 1  | 2  | 3  | 5  | 9  | 16 | 15 | 8  | 5  | 4  | 18 | 16 | 13 | 11 | 8  | 8  | 6  | 12   |
| 18   | 10 | 0  | 2 | 1 | 3 | 2  | 3  | 3  | 7  | 7  | 8  | 10 | 11 | 10 | 11 | 12 | 13 | 2  | 0  | 1  | 3  | 2  | 0  | 1  | 12   |
| 19   | 0  | 2  | 2 | 1 | 3 | 3  | 3  | 2  | 5  | 3  | 5  | 6  | 6  | 6  | 5  | 4  | 4  | 12 | 8  | 4  | 3  | 4  | 3  | 1  | 0    |
| 20   | 1  | 2  | 3 | 1 | 1 | 2  | 1  | 1  | 3  | 3  | 5  | 6  | 7  | 9  | 6  | 7  | 6  | 4  | 5  | 7  | 2  | 3  | 2  | 3  | 1    |
| 21   | 2  | 0  | 1 | 4 | 3 | 2  | 1  | 2  | 2  | 5  | 5  | 7  | 8  | 6  | 6  | 4  | 4  | 7  | 7  | 3  | 4  | 4  | 2  | 3  | 3    |
| 22   | 0  | 1  | 1 | 2 | 2 | 3  | 1  | 1  | 3  | 4  | 6  | 9  | 10 | 7  | 12 | 6  | 11 | 9  | 10 | 3  | 3  | 3  | 3  | 2  | 1    |
| 23   | 0  | 1  | 1 | 2 | 3 | 3  | 2  | 3  | 2  | 4  | 6  | 7  | 9  | 11 | 8  | 10 | 12 | 11 | 5  | 3  | 2  | 3  | 4  | 6  | 2    |
| 24   | 1  | 1  | 2 | 1 | 1 | 4  | 3  | 3  | 2  | 6  | 5  | 13 | 19 | 14 | 12 | 11 | 9  | 10 | 2  | 7  | 6  | 3  | 4  | 3  | 6    |
| 25   | 1  | 4  | 4 | 3 | 3 | 3  | 1  | 2  | 6  | 8  | 7  | 11 | 6  | 7  | 7  | 8  | 14 | 12 | 10 | 12 | 10 | 9  | 5  | 2  | 6    |
| 26   | 5  | 1  | 2 | 3 | 3 | 2  | 3  | 8  | 6  | 2  | 4  | 15 | 15 | 13 | 17 | 13 | 6  | 8  | 9  | 7  | 3  | 4  | 3  | 3  | 4    |
| 27   | 4  | 2  | 1 | 4 | 4 | 2  | 3  | 3  | 3  | 4  | 9  | 7  | 13 | 9  | 7  | 6  | 6  | 3  | 8  | 6  | 5  | 6  | 8  | 4  | 8    |
| 28   | 1  | 4  | 2 | 5 | 5 | 5  | 4  | 4  | 5  | 7  | 9  | 8  | 9  | 9  | 8  | 12 | 12 | 10 | 8  | 6  | 6  | 6  | 8  | 4  | 4    |
| 29   | 1  | 3  | 3 | 3 | 3 | 3  | 3  | 4  | 5  | 6  | 8  | 9  | 11 | 10 | 10 | 10 | 9  | 8  | 7  | 6  | 5  | 5  | 4  | 4  | 4    |
| 30   | 3  | 3  | 3 | 3 | 3 | 3  | 3  | 4  | 5  | 5  | 6  | 9  | 11 | 10 | 10 | 10 | 10 | 9  | 8  | 7  | 5  | 5  | 4  | 4  | 4    |
| MEAN |    |    |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |

TOTAL NUMBER OF OBSERVATIONS = 8535 MEAN = 6.

\* INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 100 FEET(MPH)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4 | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 3  | 3  | 3  | 5 | 5  | 4  | 7  | 4  | 4  | 7  | 11 | 11 | 15 | 11 | 7  | 10 | 10 | 13 | 20 | 11 | 3  | 5  | 7  | 6  | 8    |
| 2    | 3  | 3  | 10 | 9 | 3  | 5  | 10 | 5  | 9  | 8  | 8  | 11 | 6  | 8  | 10 | 8  | 7  | 9  | 10 | 6  | 3  | 3  | 6  | 5  | 7    |
| 3    | 3  | 3  | 3  | 2 | 4  | 5  | 5  | 4  | 7  | 10 | 12 | 15 | 19 | 18 | 15 | 16 | 13 | 11 | 10 | 2  | 3  | 4  | 6  | 5  | 8    |
| 4    | 3  | 2  | 2  | 2 | 2  | 1  | 2  | 3  | 0  | 3  | 3  | 3  | 11 | 9  | 4  | 9  | 6  | 5  | 1  | 7  | 5  | 5  | 4  | 2  | 5    |
| 5    | 2  | 4  | 4  | 5 | 2  | 2  | 1  | 3  | 2  | 4  | 4  | 6  | 4  | 4  | 7  | 5  | 7  | 4  | 7  | 10 | 4  | 5  | 1  | 0  | 4    |
| 6    | 2  | 3  | 2  | 2 | 2  | 2  | 5  | 5  | 3  | 3  | 5  | 9  | 8  | 3  | 7  | 4  | 6  | 8  | 5  | 6  | 5  | 5  | 5  | 5  | 5    |
| 7    | 2  | 3  | 0  | 2 | 2  | 12 | 13 | 13 | 8  | 12 | 17 | 16 | 14 | 12 | 15 | 15 | 16 | 13 | 9  | 7  | 12 | 12 | 14 | 18 | 10   |
| 8    | 0  | 11 | 9  | 8 | 8  | 7  | 7  | 5  | 5  | 13 | 22 | 24 | 25 | 21 | 23 | 23 | 19 | 17 | 10 | 11 | 13 | 12 | 4  | 7  | 15   |
| 9    | 17 | 11 | 4  | 6 | 11 | 8  | 13 | 13 | 18 | 20 | 20 | 18 | 21 | 17 | 17 | 14 | 14 | 12 | 8  | 7  | 2  | 3  | 7  | 6  | 11   |
| 10   | 17 | 18 | 4  | 8 | 8  | 7  | 7  | 5  | 9  | 12 | 7  | 5  | 6  | 4  | 6  | 5  | 2  | 1  | 1  | 1  | 3  | 6  | 5  | 2  | 9    |
| 11   | 8  | 3  | 1  | 2 | 5  | 5  | 4  | 3  | 5  | 9  | 8  | 8  | 20 | 22 | 18 | 14 | 9  | 5  | 4  | 5  | 9  | 11 | 7  | 8  | 5    |
| 12   | 5  | 11 | 3  | 3 | 3  | 6  | 6  | 8  | 5  | 3  | 7  | 13 | 19 | 15 | 17 | 15 | 16 | 14 | 1  | 1  | 3  | 3  | 7  | 6  | 7    |
| 13   | 7  | 3  | 1  | 1 | 3  | 5  | 5  | 6  | 7  | 13 | 16 | 18 | 19 | 22 | 17 | 14 | 14 | 15 | 22 | 19 | 15 | 10 | 7  | 3  | 11   |
| 14   | 7  | 2  | 5  | 6 | 7  | 7  | 9  | 9  | 8  | 8  | 7  | 6  | 6  | 9  | 7  | 9  | 9  | 9  | 7  | 4  | 6  | 6  | 3  | 2  | 6    |
| 15   | 2  | 3  | 6  | 3 | 7  | 1  | 1  | 1  | 4  | 1  | 1  | 4  | 7  | 7  | 5  | 8  | 6  | 5  | 5  | 3  | 1  | 1  | 1  | 3  | 5    |
| 16   | 3  | 1  | 4  | 2 | 1  | 1  | 1  | 1  | 2  | 3  | 5  | 10 | 18 | 17 | 19 | 16 | 17 | 14 | 7  | 7  | 10 | 9  | 9  | 2  | 11   |
| 17   | 3  | 4  | 2  | 5 | 3  | 1  | 1  | 1  | 2  | 2  | 4  | 4  | 6  | 7  | 7  | 7  | 6  | 10 | 4  | 3  | 10 | 6  | 1  | 8  | 4    |
| 18   | 6  | 7  | 4  | 6 | 7  | 6  | 6  | 8  | 6  | 8  | 12 | 12 | 12 | 11 | 9  | 6  | 4  | 21 | 19 | 15 | 13 | 15 | 13 | 14 | 10   |
| 19   | 11 | 10 | 8  | 6 | 0  | 0  | 0  | 1  | 6  | 9  | 9  | 7  | 13 | 11 | 12 | 13 | 15 | 2  | 0  | 0  | 0  | 0  | 0  | 0  | 6    |
| 20   | 10 | 1  | 0  | 0 | 1  | 1  | 0  | 1  | 1  | 2  | 6  | 6  | 6  | 7  | 5  | 6  | 4  | 14 | 10 | 7  | 6  | 6  | 1  | 1  | 6    |
| 21   | 1  | 1  | 1  | 2 | 1  | 3  | 1  | 2  | 2  | 3  | 5  | 7  | 9  | 10 | 7  | 7  | 4  | 5  | 6  | 11 | 6  | 3  | 1  | 1  | 6    |
| 22   | 1  | 1  | 2  | 1 | 2  | 2  | 1  | 2  | 3  | 5  | 5  | 7  | 11 | 8  | 6  | 7  | 6  | 8  | 10 | 6  | 4  | 2  | 3  | 0  | 1    |
| 23   | 1  | 1  | 1  | 2 | 1  | 3  | 1  | 1  | 3  | 4  | 7  | 8  | 11 | 10 | 13 | 13 | 12 | 11 | 12 | 4  | 5  | 2  | 2  | 1  | 6    |
| 24   | 1  | 1  | 2  | 1 | 0  | 3  | 1  | 3  | 3  | 6  | 5  | 9  | 10 | 12 | 9  | 11 | 10 | 11 | 3  | 6  | 10 | 4  | 4  | 4  | 5    |
| 25   | 1  | 1  | 1  | 4 | 2  | 3  | 4  | 4  | 7  | 5  | 8  | 15 | 22 | 16 | 14 | 13 | 10 | 8  | 10 | 4  | 10 | 6  | 5  | 3  | 8    |
| 26   | 6  | 6  | 3  | 4 | 3  | 4  | 1  | 3  | 6  | 10 | 4  | 13 | 7  | 8  | 8  | 9  | 16 | 14 | 12 | 12 | 14 | 12 | 8  | 9  | 9    |
| 27   | 7  | 7  | 3  | 4 | 3  | 3  | 5  | 10 | 7  | 2  | 4  | 17 | 18 | 14 | 19 | 15 | 7  | 9  | 11 | 9  | 4  | 3  | 9  | 7  | 6    |
| 28   | 2  | 1  | 1  | 1 | 4  | 3  | 3  | 3  | 4  | 4  | 10 | 14 | 14 | 10 | 7  | 6  | 6  | 3  | 9  | 8  | 5  | 4  | 3  | 7  | 9    |
| 29   | 4  | 3  | 1  | 4 | 3  | 3  | 5  | 3  | 5  | 8  | 10 | 7  | 14 | 10 | 7  | 6  | 6  | 3  | 11 | 10 | 9  | 4  | 5  | 7  | 6    |
| 30   | 1  | 4  | 7  | 7 | 7  | 5  | 5  | 4  | 5  | 8  | 10 | 9  | 9  | 10 | 9  | 14 | 13 | 11 | 11 | 10 | 6  | 11 | 13 | 13 | 9    |
| MEAN | 4  | 4  | 3  | 3 | 3  | 4  | 4  | 4  | 5  | 7  | 9  | 10 | 12 | 11 | 11 | 11 | 10 | 10 | 9  | 7  | 6  | 6  | 5  | 5  | 7    |

TOTAL NUMBER OF OBSERVATIONS = 8539 MEAN = 7.

1 INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND SPEED AT 200 FEET(MPH)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 4  | 4  | 5  | 5  | 5  | 4  | 8  | 5  | 4  | 7  | 12 | 12 | 17 | 11 | 7  | 11 | 11 | 14 | 21 | 15 | 4  | 7  | 8  | 8  | 9    |
| 2    | 4  | 4  | 12 | 11 | 4  | 7  | 12 | 7  | 10 | 9  | 8  | 11 | 6  | 8  | 10 | 9  | 8  | 10 | 11 | 7  | 3  | 2  | 7  | 6  | 8    |
| 3    | 4  | 4  | 3  | 2  | 4  | 7  | 6  | 5  | 6  | 9  | 15 | 19 | 19 | 18 | 16 | 17 | 14 | 12 | 18 | 2  | 1  | 4  | 5  | 4  | 8    |
| 4    | 1  | 4  | 4  | 2  | 2  | 1  | 1  | 2  | 0  | 2  | 6  | 11 | 11 | 10 | 10 | 9  | 6  | 6  | 11 | 7  | 6  | 4  | 4  | 1  | 8    |
| 5    | 1  | 4  | 4  | 4  | 1  | 1  | 1  | 1  | 2  | 7  | 3  | 2  | 3  | 4  | 4  | 8  | 7  | 4  | 0  | 10 | 5  | 1  | 5  | 0  | 5    |
| 6    | 1  | 4  | 3  | 2  | 3  | 1  | 2  | 4  | 3  | 4  | 9  | 9  | 7  | 8  | 7  | 4  | 6  | 8  | 8  | 4  | 4  | 3  | 6  | 6  | 5    |
| 7    | 2  | 2  | 3  | 2  | 1  | 5  | 6  | 7  | 3  | 2  | 6  | 8  | 8  | 9  | 7  | 4  | 6  | 6  | 5  | 7  | 4  | 2  | 3  | 3  | 4    |
| 8    | 2  | 3  | 1  | 0  | 3  | 14 | 17 | 15 | 8  | 13 | 17 | 26 | 27 | 12 | 16 | 24 | 21 | 19 | 10 | 7  | 10 | 18 | 20 | 2  | 10   |
| 9    | 17 | 12 | 10 | 7  | 13 | 14 | 9  | 10 | 15 | 19 | 24 | 20 | 22 | 23 | 19 | 25 | 21 | 13 | 12 | 14 | 14 | 14 | 8  | 8  | 16   |
| 10   | 9  | 9  | 6  | 8  | 10 | 14 | 9  | 14 | 19 | 21 | 21 | 20 | 22 | 23 | 19 | 15 | 15 | 13 | 9  | 8  | 2  | 3  | 7  | 7  | 13   |
| 11   | 4  | 3  | 1  | 1  | 5  | 6  | 4  | 5  | 7  | 9  | 8  | 5  | 6  | 4  | 6  | 5  | 2  | 1  | 17 | 0  | 9  | 4  | 9  | 10 | 5    |
| 12   | 9  | 12 | 5  | 4  | 2  | 1  | 6  | 10 | 6  | 3  | 8  | 13 | 21 | 23 | 18 | 15 | 10 | 5  | 5  | 4  | 2  | 6  | 5  | 2  | 8    |
| 13   | 3  | 1  | 2  | 2  | 7  | 1  | 8  | 7  | 7  | 13 | 17 | 19 | 20 | 16 | 17 | 17 | 17 | 15 | 24 | 22 | 17 | 11 | 11 | 7  | 13   |
| 14   | 9  | 4  | 7  | 7  | 8  | 8  | 9  | 9  | 9  | 8  | 7  | 7  | 6  | 7  | 9  | 9  | 9  | 9  | 7  | 5  | 6  | 7  | 9  | 2  | 4    |
| 15   | 3  | 4  | 7  | 3  | 0  | 1  | 1  | 1  | 4  | 1  | 4  | 4  | 7  | 9  | 8  | 8  | 6  | 5  | 4  | 4  | 1  | 7  | 2  | 2  | 13   |
| 16   | 4  | 4  | 5  | 3  | 0  | 1  | 0  | 0  | 1  | 3  | 1  | 11 | 20 | 18 | 20 | 17 | 5  | 10 | 5  | 5  | 1  | 1  | 1  | 8  | 5    |
| 17   | 0  | 2  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 3  | 3  | 4  | 6  | 7  | 5  | 8  | 5  | 10 | 5  | 7  | 11 | 10 | 10 | 8  | 11   |
| 18   | 7  | 8  | 4  | 6  | 8  | 1  | 1  | 1  | 2  | 2  | 5  | 11 | 13 | 11 | 11 | 17 | 18 | 22 | 21 | 16 | 14 | 17 | 14 | 15 | 7    |
| 19   | 10 | 10 | 8  | 6  | 8  | 6  | 6  | 9  | 7  | 7  | 12 | 12 | 13 | 11 | 13 | 6  | 5  | 3  | 0  | 1  | 5  | 3  | 2  | 0  | 11   |
| 20   | 0  | 0  | 3  | 2  | 5  | 4  | 7  | 5  | 5  | 9  | 9  | 7  | 13 | 11 | 13 | 14 | 15 | 14 | 12 | 8  | 6  | 6  | 2  | 4  | 4    |
| 21   | 1  | 0  | 1  | 1  | 3  | 1  | 0  | 0  | 1  | 3  | 6  | 7  | 6  | 7  | 5  | 7  | 4  | 4  | 7  | 13 | 8  | 3  | 3  | 1  | 4    |
| 22   | 0  | 3  | 2  | 1  | 2  | 3  | 2  | 1  | 2  | 4  | 6  | 6  | 9  | 10 | 7  | 6  | 6  | 9  | 12 | 9  | 4  | 4  | 3  | 0  | 4    |
| 23   | 1  | 1  | 0  | 2  | 1  | 1  | 1  | 1  | 3  | 4  | 7  | 10 | 11 | 8  | 13 | 13 | 12 | 11 | 13 | 4  | 6  | 1  | 5  | 0  | 6    |
| 24   | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 2  | 2  | 6  | 5  | 8  | 10 | 13 | 9  | 12 | 11 | 13 | 13 | 6  | 2  | 2  | 1  | 5  | 5    |
| 25   | 1  | 5  | 2  | 1  | 0  | 2  | 3  | 4  | 3  | 7  | 8  | 17 | 23 | 17 | 14 | 9  | 18 | 8  | 12 | 15 | 13 | 8  | 3  | 4  | 8    |
| 26   | 9  | 9  | 3  | 2  | 1  | 2  | 2  | 3  | 7  | 10 | 13 | 13 | 8  | 8  | 8  | 16 | 18 | 16 | 15 | 18 | 16 | 10 | 3  | 9  | 9    |
| 27   | 3  | 1  | 1  | 0  | 3  | 2  | 6  | 12 | 7  | 2  | 4  | 19 | 19 | 15 | 20 | 16 | 7  | 9  | 12 | 11 | 14 | 4  | 2  | 4  | 7    |
| 28   | 4  | 1  | 0  | 3  | 3  | 4  | 1  | 2  | 3  | 4  | 10 | 8  | 14 | 10 | 8  | 6  | 6  | 3  | 10 | 10 | 5  | 3  | 7  | 10 | 6    |
| 29   | 4  | 1  | 0  | 9  | 3  | 4  | 5  | 4  | 5  | 9  | 11 | 9  | 10 | 10 | 9  | 14 | 14 | 12 | 13 | 11 | 11 | 13 | 7  | 14 | 9    |
| 30   | 3  | 4  | 4  | 4  | 9  | 4  | 5  | 4  | 5  | 6  | 11 | 11 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 11 | 7  | 6  | 14 | 5  | 9    |
| MEAN | 4  | 4  | 4  | 3  | 4  | 4  | 4  | 5  | 6  | 7  | 9  | 11 | 13 | 12 | 12 | 11 | 11 | 10 | 10 | 9  | 7  | 6  | 6  | 5  | 7    |

TOTAL NUMBER OF OBSERVATIONS = 8538      MEAN = 8.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

HOUR

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 233 | 231 | 284 | 48  | 94  | 130 | 120 | 114 | 121 | 225 | 212 | 235 | 220 | 177 | 186 | 226 | 240 | 189 | 182 | 156 | 84  | 141 | 160 | 157 | 176  |
| 2    | 104 | 123 | 171 | 167 | 175 | 134 | 187 | 153 | 173 | 199 | 254 | 309 | 300 | 275 | 319 | 296 | 273 | 300 | 328 | 294 | 282 | 263 | 316 | 18  | 250  |
| 3    | 295 | 296 | 332 | 285 | 289 | 277 | 303 | 283 | 320 | 316 | 338 | 350 | 356 | 358 | 1   | 7   | 356 | 5   | 10  | 48  | 238 | 117 | 164 | 214 | 324  |
| 4    | 218 | 169 | 154 | 175 | 173 | 146 | 136 | 95  | 129 | 52  | 330 | 346 | 332 | 334 | 329 | 348 | 59  | 333 | 258 | 132 | 82  | 111 | 246 | 128 | 114  |
| 5    | 133 | 220 | 227 | 258 | 93  | 159 | 204 | 186 | 60  | 8   | 22  | 305 | 323 | 36  | 6   | 328 | 7   | 351 | 99  | 204 | 206 | 303 | 196 | 200 | 263  |
| 6    | 158 | 119 | 169 | 215 | 134 | 176 | 214 | 86  | 20  | 162 | 133 | 148 | 235 | 216 | 238 | 239 | 204 | 201 | 211 | 225 | 150 | 137 | 165 | 178 | 178  |
| 7    | 223 | 66  | 107 | 101 | 135 | 209 | 123 | 93  | 73  | 43  | 264 | 229 | 233 | 245 | 192 | 291 | 312 | 239 | 225 | 172 | 215 | 192 | 190 | 245 | 196  |
| 8    | 195 | 204 | 158 | 199 | 151 | 115 | 91  | 90  | 139 | 192 | 205 | 207 | 217 | 209 | 206 | 214 | 209 | 214 | 207 | 223 | 223 | 215 | 202 | 183 | 190  |
| 9    | 175 | 166 | 155 | 102 | 141 | 169 | 149 | 133 | 191 | 196 | 186 | 199 | 203 | 197 | 205 | 195 | 200 | 205 | 189 | 202 | 184 | 177 | 125 | 166 | 176  |
| 10   | 174 | 162 | 104 | 156 | 199 | 165 | 197 | 202 | 197 | 215 | 208 | 216 | 213 | 218 | 224 | 226 | 228 | 247 | 264 | 234 | 174 | 258 | 257 | 250 | 209  |
| 11   | 246 | 225 | 203 | 239 | 226 | 219 | 228 | 240 | 190 | 289 | 111 | 129 | 193 | 272 | 311 | 309 | 307 | 269 | 207 | 161 | 177 | 69  | 248 | 263 | 230  |
| 12   | 268 | 252 | 224 | 284 | 252 | 244 | 256 | 338 | 333 | 360 | 3   | 330 | 331 | 300 | 330 | 310 | 254 | 201 | 203 | 216 | 231 | 238 | 239 | 231 | 271  |
| 13   | 227 | 150 | 203 | 211 | 177 | 215 | 260 | 120 | 159 | 265 | 261 | 234 | 229 | 233 | 218 | 228 | 249 | 272 | 326 | 182 | 191 | 199 | 147 | 66  | 213  |
| 14   | 151 | 99  | 129 | 118 | 105 | 125 | 101 | 110 | 75  | 172 | 203 | 206 | 193 | 230 | 233 | 240 | 241 | 256 | 314 | 319 | 321 | 310 | 278 | 257 | 197  |
| 15   | 239 | 251 | 267 | 276 | 303 | 305 | 330 | 312 | 317 | 326 | 310 | 288 | 273 | 287 | 323 | 338 | 329 | 334 | 322 | 303 | 310 | 316 | 264 | 258 | 299  |
| 16   | 294 | 284 | 300 | 313 | 217 | 195 | 90  | 213 | 322 | 7   | 269 | 293 | 322 | 316 | 335 | 343 | 353 | 345 | 357 | 148 | 229 | 220 | 218 | 185 | 288  |
| 17   | 246 | 185 | 273 | 150 | 216 | 191 | 172 | 53  | 16  | 340 | 355 | 323 | 354 | 334 | 313 | 244 | 16  | 10  | 46  | 184 | 279 | 33  | 38  | 42  | 337  |
| 18   | 321 | 309 | 240 | 228 | 194 | 206 | 197 | 6   | 349 | 12  | 349 | 269 | 213 | 215 | 219 | 236 | 257 | 335 | 327 | 323 | 329 | 333 | 338 | 334 | 289  |
| 19   | 329 | 327 | 327 | 322 | 321 | 316 | 303 | 304 | 313 | 311 | 317 | 321 | 320 | 319 | 320 | 315 | 288 | 125 | 203 | 211 | 213 | 212 | 213 | 212 | 294  |
| 20   | 212 | 211 | 212 | 212 | 214 | 214 | 213 | 247 | 311 | 328 | 343 | 357 | 357 | 3   | 359 | 9   | 357 | 360 | 350 | 59  | 143 | 195 | 214 | 254 | 276  |
| 21   | 227 | 191 | 192 | 206 | 213 | 228 | 103 | 52  | 12  |     |     | 37  | 10  | 330 | 252 | 270 | 143 | 124 | 185 | 207 | 214 | 145 | 88  | 109 | 176  |
| 22   | 119 | 148 | 215 | 215 | 146 | 213 | 39  | 46  | 6   | 355 | 329 | 303 | 308 | 295 | 326 | 322 | 2   | 353 | 6   | 38  | 208 | 208 | 222 | 196 | 309  |
| 23   | 174 | 268 | 183 | 263 | 207 | 232 | 197 | 285 | 324 | 322 | 310 | 284 | 341 | 356 | 339 | 315 | 9   | 62  | 82  | 91  | 113 | 223 | 195 | 219 | 272  |
| 24   | 253 | 210 | 171 | 245 | 223 | 210 | 58  | 355 | 336 | 335 | 325 | 348 | 356 | 25  | 342 | 45  | 2   | 25  | 43  | 67  | 213 | 228 | 233 | 234 | 318  |
| 25   | 158 | 224 | 218 | 175 | 227 | 156 | 98  | 24  | 267 | 324 | 345 | 355 | 346 | 333 | 274 | 315 | 306 | 311 | 274 | 150 | 222 | 201 | 121 | 150 | 254  |
| 26   | 190 | 105 | 87  | 97  | 108 | 86  | 100 | 65  | 221 | 319 | 291 | 218 | 185 | 186 | 167 | 253 | 223 | 220 | 231 | 213 | 217 | 335 | 129 | 261 | 186  |
| 27   | 189 | 150 | 62  | 121 | 77  | 139 | 174 | 103 | 123 | 215 | 210 | 173 | 173 | 143 | 171 | 164 | 157 | 144 | 139 | 42  | 140 | 112 | 84  | 146 | 140  |
| 28   | 227 | 228 | 225 | 210 | 179 | 192 | 223 | 207 | 159 | 255 | 151 | 191 | 169 | 212 | 205 | 205 | 207 | 179 | 163 | 205 | 121 | 133 | 111 | 119 | 188  |
| 29   | 91  | 103 | 172 | 175 | 171 | 192 | 85  | 95  | 32  | 360 | 349 | 292 | 322 | 342 | 289 | 273 | 258 | 268 | 191 | 191 | 120 | 146 | 213 | 131 | 180  |
| 30   | 52  | 104 | 145 | 145 | 125 | 102 | 113 | 86  | 73  | 231 | 207 | 206 | 172 | 157 | 187 | 211 | 208 | 222 | 219 | 213 | 222 | 191 | 205 | 200 | 172  |
| MEAN | 207 | 190 | 193 | 199 | 178 | 185 | 157 | 89  | 22  | 305 | 294 | 268 | 274 | 276 | 273 | 278 | 278 | 275 | 242 | 188 | 200 | 196 | 197 | 197 | 197  |

TOTAL NUMBER OF OBSERVATIONS = 8540 MEAN = 223.

1 INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND DIRECTION AT 30 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | 236  | 233 | 281 | 41  | 86  | 123 | 112 | 109 | 115 | 220 | 207 | 231 | 214 | 172 | 186 | 219 | 236 | 183 | 176 | 152 | 84  | 139 | 150 | 150 |
| 2    | 96   | 126 | 162 | 156 | 168 | 125 | 182 | 147 | 167 | 192 | 262 | 302 | 290 | 269 | 310 | 289 | 266 | 292 | 321 | 289 | 280 | 259 | 306 | 360 |
| 3    | 289  | 286 | 317 | 276 | 280 | 276 | 292 | 278 | 310 | 308 | 331 | 343 | 348 | 349 | 354 | 359 | 348 | 358 | 360 | 13  | 217 | 109 | 157 | 191 |
| 4    | 211  | 166 | 156 | 164 | 182 | 167 | 133 | 94  | 149 | 4   | 320 | 337 | 324 | 328 | 322 | 340 | 51  | 324 | 254 | 126 | 79  | 97  | 244 | 117 |
| 5    | 133  | 220 | 221 | 233 | 72  | 135 | 186 | 191 | 51  | 360 | 19  | 296 | 314 | 24  | 355 | 324 | 351 | 343 | 50  | 176 | 173 | 190 | 40  | 188 |
| 6    | 145  | 122 | 155 | 197 | 196 | 112 | 156 | 81  | 13  | 137 | 41  | 131 | 224 | 214 | 251 | 234 | 201 | 197 | 201 | 201 | 175 | 122 | 154 | 163 |
| 7    | 189  | 63  | 111 | 47  | 84  | 189 | 121 | 88  | 53  | 36  | 235 | 223 | 234 | 236 | 188 | 274 | 307 | 242 | 217 | 157 | 202 | 176 | 183 | 236 |
| 8    | 169  | 195 | 79  | 199 | 146 | 120 | 90  | 86  | 134 | 186 | 200 | 203 | 211 | 203 | 201 | 208 | 205 | 211 | 204 | 207 | 200 | 197 | 191 | 177 |
| 9    | 166  | 153 | 131 | 97  | 131 | 163 | 141 | 127 | 187 | 190 | 181 | 194 | 195 | 191 | 199 | 190 | 196 | 201 | 182 | 191 | 171 | 173 | 177 | 159 |
| 10   | 170  | 155 | 111 | 148 | 190 | 203 | 204 | 196 | 192 | 211 | 204 | 209 | 208 | 213 | 219 | 220 | 223 | 243 | 259 | 227 | 166 | 245 | 262 | 251 |
| 11   | 247  | 226 | 186 | 236 | 215 | 280 | 224 | 234 | 186 | 271 | 102 | 111 | 187 | 265 | 301 | 302 | 300 | 263 | 206 | 163 | 186 | 82  | 250 | 258 |
| 12   | 263  | 246 | 223 | 276 | 246 | 240 | 261 | 312 | 325 | 354 | 356 | 324 | 323 | 292 | 322 | 300 | 251 | 198 | 208 | 201 | 219 | 235 | 238 | 225 |
| 13   | 208  | 163 | 197 | 205 | 156 | 213 | 211 | 114 | 154 | 261 | 262 | 225 | 222 | 227 | 214 | 223 | 243 | 264 | 311 | 160 | 176 | 184 | 167 | 78  |
| 14   | 138  | 94  | 128 | 116 | 104 | 120 | 101 | 102 | 72  | 165 | 197 | 201 | 186 | 224 | 226 | 233 | 234 | 251 | 305 | 309 | 313 | 307 | 282 | 261 |
| 15   | 239  | 250 | 268 | 273 | 296 | 298 | 322 | 303 | 310 | 319 | 304 | 283 | 272 | 282 | 315 | 332 | 321 | 325 | 312 | 296 | 303 | 307 | 260 | 254 |
| 16   | 287  | 280 | 294 | 302 | 221 | 194 | 75  | 212 | 314 | 350 | 277 | 287 | 316 | 310 | 327 | 332 | 342 | 338 | 350 | 75  | 225 | 203 | 223 | 171 |
| 17   | 294  | 139 | 289 | 93  | 210 | 307 | 158 | 42  | 6   | 337 | 341 | 340 | 347 | 324 | 296 | 238 | 3   | 2   | 41  | 163 | 259 | 23  | 32  | 31  |
| 18   | 328  | 315 | 240 | 235 | 193 | 208 | 159 | 343 | 314 | 358 | 336 | 263 | 207 | 208 | 214 | 229 | 253 | 331 | 323 | 315 | 321 | 326 | 331 | 327 |
| 19   | 321  | 318 | 320 | 314 | 311 | 307 | 295 | 298 | 304 | 303 | 309 | 314 | 311 | 310 | 317 | 308 | 283 | 116 | 131 | 131 | 131 | 131 | 131 | 131 |
| 20   | 131  | 131 | 223 | 229 | 255 | 264 | 274 | 273 | 300 | 323 | 334 | 26  | 349 | 352 | 352 | 2   | 351 | 355 | 345 | 36  | 120 | 169 | 209 | 287 |
| 21   | 256  | 174 | 194 | 210 | 272 | 221 | 91  | 44  | 5   | 351 | 321 | 294 | 302 | 288 | 339 | 322 | 355 | 344 | 359 | 26  | 159 | 176 | 191 | 158 |
| 22   | 105  | 143 | 205 | 201 | 71  | 204 | 338 | 44  | 343 | 351 | 321 | 294 | 302 | 288 | 339 | 322 | 355 | 344 | 359 | 26  | 159 | 176 | 191 | 158 |
| 23   | 28   | 323 | 299 | 284 | 201 | 236 | 206 | 274 | 314 | 316 | 304 | 275 | 338 | 321 | 322 | 307 | 2   | 56  | 73  | 76  | 93  | 202 | 172 | 204 |
| 24   | 282  | 233 | 160 | 269 | 218 | 209 | 68  | 328 | 330 | 327 | 316 | 338 | 352 | 16  | 334 | 27  | 355 | 18  | 35  | 49  | 191 | 225 | 234 | 218 |
| 25   | 89   | 242 | 201 | 161 | 281 | 139 | 96  | 14  | 265 | 324 | 341 | 348 | 344 | 325 | 268 | 308 | 299 | 302 | 291 | 153 | 204 | 191 | 116 | 138 |
| 26   | 168  | 102 | 94  | 94  | 105 | 87  | 98  | 80  | 216 | 293 | 282 | 212 | 176 | 168 | 161 | 247 | 217 | 215 | 226 | 206 | 205 | 261 | 120 | 256 |
| 27   | 187  | 144 | 56  | 110 | 73  | 123 | 150 | 103 | 116 | 209 | 204 | 162 | 137 | 164 | 158 | 150 | 150 | 140 | 132 | 34  | 131 | 115 | 69  | 133 |
| 28   | 188  | 226 | 210 | 202 | 161 | 183 | 229 | 202 | 156 | 276 | 162 | 189 | 183 | 207 | 199 | 201 | 203 | 172 | 155 | 198 | 120 | 126 | 105 | 119 |
| 29   | 95   | 98  | 158 | 163 | 151 | 194 | 79  | 89  | 21  | 353 | 338 | 288 | 314 | 335 | 282 | 254 | 249 | 264 | 187 | 191 | 118 | 135 | 182 | 145 |
| 30   | 79   | 97  | 145 | 142 | 137 | 100 | 109 | 80  | 67  | 220 | 200 | 211 | 166 | 157 | 182 | 206 | 203 | 216 | 215 | 201 | 203 | 186 | 194 | 183 |
| MEAN | 191  | 180 | 190 | 196 | 178 | 186 | 149 | 86  | 353 | 299 | 293 | 264 | 268 | 268 | 271 | 270 | 271 | 270 | 246 | 172 | 181 | 175 | 185 | 182 |

TOTAL NUMBER OF OBSERVATIONS = 8535 MEAN = 220.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
| 1    | 267  | 267 | 296 | 57  | 87  | 118 | 110 | 110 | 119 | 220 | 208 | 233 | 215 | 173 | 191 | 223 | 237 | 183 | 175 | 155 | 103 | 150 | 148 | 149 | 173  |
| 2    | 112  | 137 | 157 | 147 | 157 | 126 | 184 | 146 | 166 | 191 | 253 | 305 | 288 | 271 | 313 | 292 | 267 | 292 | 326 | 301 | 296 | 275 | 312 | 7   | 248  |
| 3    | 342  | 296 | 319 | 295 | 287 | 298 | 303 | 298 | 313 | 312 | 333 | 346 | 350 | 352 | 357 | 360 | 351 | 360 | 1   | 17  | 257 | 104 | 144 | 177 | 328  |
| 4    | 233  | 202 | 201 | 165 | 201 | 198 | 127 | 100 | 95  | 14  | 321 | 338 | 328 | 332 | 326 | 342 | 55  | 328 | 257 | 123 | 87  | 82  | 257 | 128 | 122  |
| 5    | 163  | 248 | 229 | 252 | 360 | 90  | 130 | 162 | 59  | 1   | 16  | 307 | 341 | 9   | 356 | 329 | 355 | 352 | 41  | 84  | 147 | 158 | 54  | 140 | 33   |
| 6    | 356  | 116 | 128 | 169 | 261 | 67  | 135 | 104 | 22  | 164 | 142 | 139 | 223 | 216 | 245 | 231 | 200 | 196 | 202 | 199 | 202 | 105 | 130 | 136 | 165  |
| 7    | 187  | 103 | 126 | 8   | 33  | 148 | 124 | 99  | 60  | 27  | 343 | 225 | 246 | 242 | 192 | 292 | 305 | 245 | 224 | 157 | 191 | 148 | 142 | 142 | 165  |
| 8    | 93   | 169 | 47  | 173 | 150 | 131 | 113 | 103 | 136 | 186 | 199 | 203 | 211 | 204 | 201 | 209 | 205 | 210 | 205 | 213 | 197 | 182 | 182 | 174 | 176  |
| 9    | 159  | 138 | 116 | 107 | 136 | 160 | 136 | 128 | 191 | 189 | 181 | 194 | 195 | 191 | 198 | 190 | 198 | 201 | 183 | 183 | 170 | 169 | 185 | 164 | 170  |
| 10   | 163  | 152 | 137 | 146 | 183 | 193 | 206 | 193 | 192 | 210 | 204 | 209 | 209 | 212 | 220 | 220 | 223 | 243 | 265 | 248 | 174 | 306 | 281 | 267 | 208  |
| 11   | 265  | 252 | 223 | 266 | 228 | 338 | 235 | 237 | 187 | 266 | 105 | 109 | 187 | 265 | 301 | 303 | 300 | 265 | 211 | 172 | 191 | 147 | 259 | 259 | 238  |
| 12   | 267  | 249 | 250 | 271 | 257 | 250 | 279 | 319 | 333 | 357 | 359 | 328 | 326 | 299 | 324 | 305 | 259 | 196 | 219 | 174 | 248 | 261 | 265 | 261 | 277  |
| 13   | 230  | 304 | 307 | 1   | 117 | 291 | 296 | 108 | 147 | 252 | 244 | 225 | 221 | 226 | 214 | 224 | 244 | 264 | 308 | 143 | 169 | 178 | 183 | 119 | 225  |
| 14   | 128  | 130 | 138 | 149 | 126 | 130 | 117 | 108 | 74  | 164 | 197 | 201 | 185 | 224 | 227 | 233 | 235 | 251 | 307 | 312 | 316 | 314 | 297 | 277 | 195  |
| 15   | 284  | 284 | 279 | 284 | 303 | 304 | 326 | 307 | 316 | 322 | 309 | 290 | 282 | 295 | 321 | 335 | 325 | 328 | 318 | 304 | 310 | 313 | 278 | 267 | 303  |
| 16   | 302  | 300 | 311 | 322 | 256 | 194 | 64  | 202 | 321 | 349 | 292 | 289 | 317 | 314 | 333 | 336 | 346 | 343 | 353 | 48  | 296 | 190 | 199 | 187 | 306  |
| 17   | 355  | 89  | 318 | 32  | 248 | 351 | 55  | 47  | 25  | 348 | 347 | 16  | 353 | 328 | 294 | 242 | 9   | 3   | 41  | 142 | 50  | 24  | 37  | 33  | 10   |
| 18   | 339  | 340 | 276 | 263 | 215 | 236 | 206 | 334 | 8   | 22  | 343 | 271 | 206 | 208 | 215 | 228 | 253 | 335 | 327 | 320 | 326 | 331 | 334 | 329 | 294  |
| 19   | 325  | 322 | 324 | 320 | 317 | 312 | 301 | 303 | 309 | 307 | 314 | 318 | 316 | 315 | 322 | 314 | 296 | 92  | 155 | 103 | 130 | 298 | 325 | 326 | 316  |
| 20   | 326  | 326 | 326 | 326 | 325 | 325 | 326 | 302 | 306 | 327 | 339 | 32  | 353 | 357 | 354 | 5   | 353 | 358 | 348 | 27  | 100 | 134 | 217 | 356 | 340  |
| 21   | 325  | 57  | 296 | 101 | 103 | 225 | 87  | 54  | 7   |     |     | 32  | 10  | 313 | 277 | 267 | 143 | 112 | 179 | 196 | 184 | 119 | 113 | 87  | 92   |
| 22   | 72   | 122 | 170 | 199 | 168 | 187 | 339 | 50  | 356 | 344 | 324 | 303 | 311 | 299 | 328 | 324 | 354 | 346 | 1   | 23  | 103 | 140 | 133 | 121 | 8    |
| 23   | 42   | 18  | 333 | 354 | 171 | 254 | 267 | 270 | 318 | 321 | 310 | 278 | 347 | 334 | 328 | 313 | 5   | 58  | 71  | 66  | 78  | 185 | 182 | 162 | 335  |
| 24   | 328  | 73  | 180 | 334 | 274 | 233 | 75  | 346 | 342 | 331 | 319 | 340 | 345 | 7   | 338 | 28  | 357 | 20  | 38  | 45  | 115 | 288 | 262 | 237 | 344  |
| 25   | 59   | 62  | 194 | 5   | 32  | 110 | 107 | 23  | 262 | 327 | 338 | 354 | 352 | 329 | 273 | 312 | 302 | 307 | 311 | 169 | 203 | 183 | 97  | 130 | 350  |
| 26   | 156  | 121 | 119 | 98  | 95  | 107 | 115 | 104 | 220 | 283 | 287 | 213 | 175 | 190 | 161 | 246 | 222 | 217 | 229 | 211 | 200 | 248 | 106 | 244 | 182  |
| 27   | 202  | 157 | 25  | 97  | 77  | 93  | 169 | 118 | 122 | 209 |     | 205 | 155 | 137 | 163 | 156 | 147 | 139 | 133 | 36  | 127 | 114 | 57  | 125 | 131  |
| 28   | 143  | 184 | 265 | 189 | 146 | 134 | 243 | 204 | 155 | 288 | 170 | 187 | 183 | 208 | 199 | 202 | 204 | 172 | 154 | 194 | 116 | 129 | 137 | 139 | 178  |
| 29   | 122  | 96  | 143 | 142 | 155 | 196 | 72  | 102 | 23  | 360 | 342 | 292 | 316 | 340 | 288 | 259 | 250 | 270 | 186 | 192 | 125 | 140 | 168 | 157 | 166  |
| 30   | 156  | 104 | 146 | 143 | 151 | 105 | 117 | 89  | 71  | 223 | 201 | 216 | 164 | 154 | 183 | 206 | 205 | 216 | 218 | 204 | 203 | 187 | 187 | 181 | 171  |
| MEAN | 237  | 137 | 229 | 167 | 176 | 175 | 131 | 97  | 26  | 300 | 296 | 268 | 273 | 273 | 271 | 274 | 274 | 276 | 254 | 158 | 165 | 168 | 183 | 169 |      |

TOTAL NUMBER OF OBSERVATIONS = 8539 MEAN = 236.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

HOUR

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 290 | 297 | 308 | 40  | 90  | 113 | 115 | 124 | 143 | 229 | 220 | 245 | 226 | 187 | 214 | 233 | 249 | 193 | 187 | 167 | 146 | 171 | 159 | 164 | 189  |
| 2    | 144 | 159 | 163 | 156 | 185 | 147 | 199 | 161 | 179 | 203 | 258 | 315 | 289 | 275 | 319 | 298 | 267 | 298 | 333 | 318 | 313 | 295 | 323 | 360 | 255  |
| 3    | 4   | 312 | 321 | 324 | 300 | 328 | 329 | 329 | 323 | 319 | 340 | 353 | 356 | 358 | 1   | 4   | 356 | 4   | 5   | 33  | 321 | 97  | 131 | 189 | 344  |
| 4    | 277 | 279 | 251 | 222 | 234 | 257 | 136 | 99  | 42  | 10  | 327 | 344 | 337 | 340 | 332 | 346 | 55  | 331 | 270 | 116 | 95  | 61  | 279 | 235 | 319  |
| 5    | 223 | 274 | 264 | 298 | 339 | 51  | 106 | 140 | 61  | 6   | 18  | 314 | 339 | 18  | 351 | 336 | 359 | 358 | 30  | 64  | 128 | 165 | 170 | 128 | 13   |
| 6    | 314 | 121 | 129 | 159 | 257 | 157 | 136 | 137 | 43  | 161 | 145 | 148 | 231 | 225 | 253 | 241 | 209 | 205 | 213 | 216 | 216 | 101 | 133 | 130 | 177  |
| 7    | 203 | 132 | 234 | 327 | 347 | 154 | 125 | 112 | 87  | 3   | 246 | 237 | 239 | 242 | 207 | 331 | 318 | 252 | 237 | 173 | 190 | 124 | 156 | 129 | 201  |
| 8    | 159 | 172 | 162 | 193 | 156 | 160 | 149 | 136 | 148 | 194 | 206 | 213 | 218 | 212 | 210 | 217 | 213 | 217 | 216 | 225 | 205 | 191 | 188 | 184 | 189  |
| 9    | 170 | 142 | 123 | 130 | 160 | 171 | 146 | 139 | 200 | 198 | 190 | 203 | 202 | 199 | 207 | 199 | 206 | 209 | 192 | 193 | 183 | 178 | 181 | 173 | 179  |
| 10   | 166 | 164 | 176 | 162 | 184 | 197 | 206 | 201 | 200 | 217 | 212 | 219 | 217 | 219 | 229 | 227 | 231 | 251 | 278 | 280 | 255 | 314 | 301 | 286 | 222  |
| 11   | 285 | 292 | 11  | 6   | 250 | 333 | 248 | 248 | 198 | 273 | 106 | 118 | 197 | 275 | 310 | 311 | 309 | 275 | 225 | 199 | 218 | 218 | 266 | 263 | 262  |
| 12   | 271 | 255 | 245 | 266 | 272 | 271 | 295 | 323 | 339 | 360 | 1   | 334 | 329 | 303 | 328 | 310 | 266 | 226 | 257 | 192 | 295 | 289 | 296 | 305 | 291  |
| 13   | 267 | 322 | 360 | 13  | 90  | 339 | 302 | 107 | 148 | 237 | 258 | 236 | 231 | 236 | 223 | 234 | 254 | 274 | 314 | 126 | 181 | 186 | 188 | 196 | 238  |
| 14   | 127 | 150 | 168 | 182 | 157 | 155 | 151 | 128 | 88  | 174 | 205 | 211 | 195 | 233 | 237 | 242 | 244 | 261 | 316 | 322 | 328 | 335 | 325 | 299 | 209  |
| 15   | 352 | 324 | 294 | 298 | 315 | 314 | 330 | 314 | 323 | 333 | 319 | 300 | 293 | 307 | 328 | 339 | 332 | 333 | 326 | 315 | 319 | 323 | 294 | 282 | 316  |
| 16   | 316 | 319 | 327 | 344 | 207 | 189 | 64  | 150 | 334 | 347 | 317 | 301 | 322 | 321 | 338 | 341 | 349 | 348 | 358 | 45  | 32  | 93  | 158 | 179 | 340  |
| 17   | 357 | 84  | 292 | 350 | 287 | 273 | 96  | 53  | 38  | 349 | 345 | 351 | 355 | 330 | 307 | 252 | 42  | 5   | 43  | 133 | 54  | 29  | 40  | 35  | 8    |
| 18   | 352 | 359 | 316 | 286 | 283 | 297 | 255 | 302 | 31  | 16  | 345 | 274 | 216 | 217 | 224 | 236 | 263 | 341 | 332 | 326 | 331 | 335 | 339 | 333 | 307  |
| 19   | 330 | 326 | 330 | 325 | 319 | 319 | 310 | 309 | 316 | 313 | 319 | 325 | 322 | 321 | 330 | 323 | 314 | 75  | 131 | 102 | 126 | 316 | 330 | 14  | 330  |
| 20   | 354 | 79  | 302 | 298 | 301 | 322 | 325 | 304 | 313 | 333 | 343 | 359 | 359 | 360 | 359 | 6   | 356 | 1   | 354 | 21  | 85  | 122 | 43  | 344 | 350  |
| 21   | 256 | 168 | 340 | 115 | 132 | 245 | 253 | 264 | 13  | 338 | 332 | 40  | 23  | 319 | 310 | 281 | 158 | 123 | 191 | 213 | 206 | 171 | 205 | 231 | 223  |
| 22   | 154 | 122 | 131 | 185 | 205 | 198 | 348 | 41  | 360 | 338 | 332 | 315 | 297 | 307 | 332 | 321 | 360 | 351 | 4   | 22  | 86  | 126 | 125 | 111 | 125  |
| 23   | 104 | 125 | 360 | 82  | 134 | 261 | 298 | 252 | 324 | 325 | 320 | 281 | 352 | 340 | 336 | 314 | 9   | 61  | 73  | 59  | 68  | 129 | 321 | 195 | 359  |
| 24   | 356 | 58  | 228 | 330 | 11  | 247 | 273 | 335 | 343 | 336 | 325 | 345 | 349 | 16  | 344 | 22  | 360 | 23  | 42  | 42  | 33  | 340 | 286 | 266 | 346  |
| 25   | 226 | 95  | 209 | 291 | 148 | 103 | 103 | 100 | 272 | 331 | 332 | 356 | 349 | 333 | 281 | 316 | 308 | 312 | 322 | 201 | 220 | 219 | 47  | 130 | 297  |
| 26   | 170 | 176 | 204 | 144 | 179 | 182 | 168 | 162 | 229 | 285 | 295 | 220 | 184 | 199 | 169 | 240 | 233 | 229 | 239 | 225 | 214 | 270 | 117 | 241 | 206  |
| 27   | 226 | 193 | 347 | 75  | 55  | 70  | 228 | 142 | 139 | 216 |     | 218 | 287 | 144 | 176 | 166 | 155 | 148 | 143 | 33  | 123 | 108 | 55  | 122 | 143  |
| 28   | 136 | 124 | 334 | 351 | 163 | 145 | 252 | 214 | 167 | 294 | 188 | 196 | 195 | 217 | 207 | 210 | 216 | 181 | 163 | 201 | 137 | 157 | 196 | 225 | 191  |
| 29   | 169 | 98  | 39  | 157 | 177 | 219 | 77  | 98  | 31  | 352 | 344 | 297 | 319 | 343 | 292 | 267 | 259 | 282 | 194 | 211 | 152 | 142 | 174 | 168 | 204  |
| 30   | 193 | 148 | 154 | 153 | 167 | 114 | 139 | 120 | 87  | 233 | 212 | 215 | 176 | 165 | 193 | 214 | 214 | 224 | 225 | 215 | 221 | 203 | 198 | 194 | 184  |
| MEAN | 241 | 147 | 277 | 295 | 205 | 210 | 194 | 141 | 30  | 302 | 295 | 276 | 280 | 280 | 281 | 282 | 283 | 287 | 276 | 178 | 171 | 161 | 205 | 205 | 2    |

TOTAL NUMBER OF OBSERVATIONS = 8540 MEAN = 260.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 8 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 6  | 7  | 5  | 17 | 8  | 5  | 6  | 7  | 16 | 13 | 21 | 21 | 23 | 23 | 13 | 14 | 14 | 12 | 13 | 9  | 7  | 12 | 8  | 9  | 11   |
| 2    | 8  | 8  | 4  | 9  | 8  | 7  | 7  | 12 | 22 | 29 | 32 | 24 | 22 | 21 | 22 | 17 | 13 | 14 | 11 | 10 | 7  | 11 | 10 | 10 | 12   |
| 3    | 8  | 12 | 12 | 10 | 9  | 9  | 8  | 11 | 31 | 33 | 20 | 20 | 28 | 23 | 17 | 24 | 21 | 28 | 7  | 5  | 10 | 6  | 9  | 8  | 14   |
| 4    | 12 | 5  | 9  | 6  | 4  | 9  | 8  | 11 | 13 | 14 | 10 | 14 | 17 | 20 | 17 | 16 | 23 | 13 | 6  | 6  | 14 | 4  | 7  | 4  | 15   |
| 5    | 7  | 7  | 9  | 8  | 10 | 8  | 10 | 13 | 24 | 13 | 12 | 14 | 10 | 12 | 10 | 12 | 13 | 12 | 7  | 5  | 7  | 7  | 7  | 8  | 10   |
| 6    | 7  | 7  | 10 | 7  | 11 | 15 | 12 | 12 | 12 | 15 | 12 | 13 | 16 | 14 | 14 | 15 | 11 | 12 | 10 | 6  | 5  | 14 | 6  | 6  | 11   |
| 7    | 5  | 7  | 10 | 10 | 7  | 7  | 8  | 11 | 11 | 10 | 13 | 17 | 14 | 11 | 12 | 8  | 10 | 11 | 11 | 12 | 20 | 9  | 10 | 10 | 9    |
| 8    | 12 | 9  | 10 | 12 | 6  | 6  | 16 | 8  | 6  | 11 | 9  | 8  | 13 | 13 | 13 | 18 | 13 | 11 | 5  | 7  | 6  | 3  | 6  | 8  | 10   |
| 9    | 4  | 7  | 5  | 7  | 6  | 11 | 10 | 11 | 9  | 16 | 14 | 15 | 13 | 12 | 14 | 14 | 12 | 14 | 5  | 6  | 5  | 5  | 13 | 6  | 10   |
| 10   | 10 | 12 | 10 | 6  | 8  | 11 | 14 | 20 | 16 | 15 | 11 | 10 | 11 | 13 | 14 | 13 | 12 | 11 | 9  | 5  | 9  | 4  | 7  | 7  | 11   |
| 11   | 6  | 9  | 6  | 9  | 9  | 8  | 11 | 10 | 10 | 12 | 11 | 9  | 11 | 11 | 22 | 11 | 8  | 8  | 6  | 8  | 7  | 10 | 8  | 5  | 9    |
| 12   | 6  | 8  | 11 | 10 | 6  | 7  | 9  | 12 | 11 | 22 | 27 | 20 | 22 | 16 | 16 | 18 | 19 | 14 | 9  | 9  | 8  | 4  | 9  | 6  | 12   |
| 13   | 11 | 10 | 8  | 5  | 3  | 9  | 6  | 16 | 16 | 26 | 33 | 33 | 18 | 22 | 31 | 20 | 15 | 10 | 9  | 9  | 10 | 17 | 13 | 12 | 15   |
| 14   | 9  | 8  | 4  | 7  | 10 | 8  | 9  | 16 | 33 | 25 | 27 | 20 | 13 | 16 | 12 | 11 | 13 | 8  | 8  | 7  | 8  | 6  | 11 | 7  | 12   |
| 15   | 9  | 8  | 9  | 8  | 10 | 7  | 10 | 8  | 9  | 13 | 9  | 9  | 7  | 8  | 7  | 7  | 13 | 19 | 5  | 5  | 3  | 3  | 4  | 5  | 8    |
| 16   | 4  | 2  | 4  | 4  | 4  | 3  | 3  | 7  | 12 | 13 | 18 | 24 | 10 | 18 | 9  | 11 | 12 | 12 | 7  | 8  | 11 | 8  | 7  | 9  | 9    |
| 17   | 12 | 7  | 7  | 9  | 8  | 8  | 7  | 17 | 20 | 25 | 32 | 28 | 24 | 25 | 26 | 20 | 15 | 10 | 9  | 7  | 18 | 9  | 19 | 13 | 14   |
| 18   | 8  | 8  | 10 | 7  | 6  | 11 | 16 | 19 | 26 | 25 | 32 | 28 | 31 | 29 | 23 | 24 | 17 | 8  | 9  | 13 | 5  | 8  | 2  | 9  | 16   |
| 19   | 10 | 11 | 5  | 9  | 9  | 15 | 7  | 18 | 19 | 18 | 19 | 21 | 28 | 20 | 24 | 30 | 17 | 8  | 9  | 13 | 12 | 7  | 14 | 9  | 15   |
| 20   | 17 | 11 | 10 | 13 | 4  | 8  | 13 | 16 | 22 | 29 | 23 | 19 | 22 | 21 | 11 | 20 | 6  | 12 | 20 | 8  | 7  | 2  | 2  | 4  | 13   |
| 21   | 7  | 1  | 4  | 5  | 7  | 3  | 9  | 12 | 23 | 22 | 26 | 19 | 26 | 13 | 15 | 12 | 12 | 11 | 9  | 11 | 6  | 12 | 8  | 8  | 12   |
| 22   | 10 | 7  | 8  | 7  | 9  | 10 | 11 | 24 | 15 | 22 | 16 | 13 | 10 | 15 | 12 | 19 | 15 | 18 | 7  | 9  | 8  | 20 | 8  | 18 | 13   |
| 23   | 7  | 8  | 8  | 10 | 8  | 7  | 9  | 11 | 15 | 14 | 15 | 15 | 25 | 10 | 11 | 13 | 11 | 11 | 9  | 13 | 10 | 9  | 12 | 8  | 11   |
| 24   | 7  | 6  | 6  | 3  | 10 | 8  | 12 | 9  | 10 | 30 | 32 | 24 | 10 | 11 | 11 | 13 | 14 | 10 | 9  | 9  | 11 | 8  | 21 | 11 | 12   |
| 25   | 4  | 5  | 11 | 6  | 7  | 12 | 7  | 11 | 32 | 31 | 14 | 24 | 12 | 18 | 18 | 24 | 18 | 9  | 5  | 8  | 8  | 5  | 10 | 9  | 13   |
| 26   | 11 | 5  | 9  | 7  | 14 | 3  | 8  | 15 | 19 | 16 | 15 | 26 | 21 | 26 | 16 | 14 | 12 | 11 | 8  | 5  | 4  | 6  | 5  | 3  | 12   |
| 27   | 8  | 7  | 8  | 8  | 8  | 8  | 9  | 13 | 17 | 17 | 19 | 18 | 17 | 17 | 16 | 16 | 14 | 12 | 8  | 8  | 9  | 8  | 10 | 8  | 8    |
| 28   | 7  | 6  | 6  | 3  | 10 | 8  | 12 | 9  | 10 | 30 | 32 | 24 | 10 | 11 | 11 | 13 | 14 | 10 | 9  | 9  | 11 | 8  | 21 | 11 | 12   |
| 29   | 4  | 5  | 11 | 6  | 7  | 12 | 7  | 11 | 32 | 31 | 14 | 24 | 12 | 18 | 18 | 24 | 18 | 9  | 5  | 8  | 8  | 5  | 10 | 9  | 13   |
| 30   | 11 | 5  | 9  | 7  | 14 | 3  | 8  | 15 | 19 | 16 | 15 | 26 | 21 | 26 | 16 | 14 | 12 | 11 | 8  | 5  | 4  | 6  | 5  | 3  | 12   |
| MEAN | 8  | 7  | 8  | 8  | 8  | 8  | 8  | 9  | 13 | 17 | 19 | 18 | 17 | 17 | 16 | 16 | 14 | 12 | 8  | 8  | 8  | 9  | 8  | 10 | 8    |

TOTAL NUMBER OF OBSERVATIONS = 7489 MEAN = 12.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 30 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3 | 4 | 5 | 6 | 7 | 8 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 2  | 4  | 9 | 6 | 2 | 3 | 3 | 7 | 16 | 7  | 19 | 21 | 18 | 14 | 12 | 9  | 11 | 11 | 9  | 4  | 3  | 7  | 3  | 4  | 7    |
| 2    | 6  | 10 | 7 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 3    | 10 | 7  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 4    | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 5    | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 6    | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 7    | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 8    | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 9    | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 10   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 11   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 12   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 13   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 14   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 15   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 16   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 17   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 18   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 19   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 20   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 21   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 22   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 23   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 24   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 25   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 26   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 27   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 28   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 29   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 30   | 3  | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| MEAN | 6  | 5  | 5 | 6 | 6 | 5 | 6 | 7 | 10 | 13 | 15 | 14 | 13 | 13 | 12 | 12 | 10 | 8  | 5  | 5  | 6  | 6  | 7  | 4  | 5    |

TOTAL NUMBER OF OBSERVATIONS = 7495 MEAN = 9.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 100 FEET  
 TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 4  | 2  | 13 | 18 | 1  | 3  | 5  | 5  | 3  | 3  | 9  | 3  | 3  | 9  | 3  | 3  | 7  | 7  | 10 | 6  | 7  | 3  | 2  | 8  | 7    |
| 2    | 13 | 1  | 26 | 11 | 7  | 3  | 2  | 4  | 15 | 19 | 30 | 16 | 11 | 22 | 14 | 7  | 10 | 8  | 10 | 7  | 7  | 7  | 8  | 10 | 8    |
| 3    | 13 | 5  | 15 | 7  | 1  | 6  | 5  | 7  | 7  | 24 | 19 | 18 | 28 | 19 | 14 | 13 | 16 | 17 | 6  | 2  | 4  | 4  | 5  | 1  | 2    |
| 4    | 8  | 1  | 15 | 7  | 1  | 3  | 5  | 7  | 14 | 6  | 4  | 7  | 11 | 14 | 11 | 9  | 5  | 6  | 4  | 4  | 3  | 3  | 3  | 11 | 1    |
| 5    | 3  | 2  | 12 | 5  | 4  | 9  | 7  | 5  | 10 | 8  | 7  | 8  | 9  | 8  | 9  | 7  | 9  | 7  | 4  | 2  | 4  | 2  | 8  | 4  | 4    |
| 6    | 5  | 5  | 13 | 9  | 6  | 10 | 1  | 5  | 7  | 4  | 6  | 11 | 10 | 5  | 6  | 5  | 5  | 6  | 4  | 5  | 6  | 9  | 5  | 4  | 2    |
| 7    | 3  | 5  | 7  | 10 | 3  | 6  | 5  | 6  | 4  | 3  | 4  | 7  | 7  | 6  | 9  | 10 | 6  | 8  | 3  | 14 | 18 | 5  | 4  | 5  | 5    |
| 8    | 3  | 8  | 5  | 8  | 8  | 10 | 8  | 13 | 8  | 9  | 7  | 8  | 8  | 5  | 7  | 8  | 6  | 7  | 4  | 3  | 0  | 2  | 11 | 8  | 8    |
| 9    | 9  | 13 | 6  | 2  | 5  | 7  | 2  | 4  | 4  | 6  | 7  | 4  | 8  | 4  | 9  | 5  | 5  | 5  | 5  | 4  | 5  | 3  | 3  | 5  | 7    |
| 10   | 3  | 4  | 6  | 3  | 8  | 6  | 3  | 8  | 5  | 11 | 19 | 11 | 13 | 11 | 12 | 9  | 12 | 7  | 4  | 6  | 9  | 4  | 6  | 3  | 3    |
| 11   | 8  | 4  | 6  | 3  | 16 | 6  | 4  | 16 | 19 | 27 | 28 | 31 | 14 | 19 | 29 | 9  | 18 | 7  | 4  | 4  | 7  | 4  | 5  | 2  | 2    |
| 12   | 4  | 6  | 8  | 3  | 5  | 4  | 4  | 3  | 7  | 6  | 4  | 3  | 9  | 10 | 7  | 7  | 8  | 15 | 1  | 4  | 4  | 4  | 4  | 4  | 4    |
| 13   | 6  | 4  | 10 | 3  | 6  | 4  | 5  | 3  | 8  | 7  | 14 | 6  | 5  | 4  | 4  | 6  | 7  | 5  | 6  | 3  | 3  | 3  | 4  | 7  | 6    |
| 14   | 3  | 8  | 5  | 2  | 8  | 10 | 5  | 4  | 4  | 9  | 7  | 8  | 8  | 10 | 9  | 8  | 6  | 6  | 5  | 4  | 5  | 2  | 3  | 8  | 7    |
| 15   | 9  | 13 | 6  | 5  | 2  | 7  | 5  | 3  | 5  | 6  | 7  | 4  | 8  | 4  | 18 | 5  | 5  | 5  | 5  | 6  | 4  | 3  | 8  | 5  | 5    |
| 16   | 3  | 4  | 6  | 3  | 8  | 6  | 3  | 8  | 19 | 14 | 28 | 31 | 14 | 19 | 29 | 9  | 18 | 7  | 4  | 4  | 9  | 4  | 6  | 3  | 3    |
| 17   | 8  | 4  | 6  | 3  | 16 | 6  | 4  | 16 | 28 | 27 | 15 | 13 | 9  | 10 | 7  | 7  | 7  | 4  | 1  | 4  | 7  | 4  | 5  | 2  | 7    |
| 18   | 4  | 6  | 8  | 3  | 5  | 4  | 4  | 3  | 7  | 6  | 4  | 3  | 4  | 4  | 4  | 6  | 8  | 15 | 6  | 2  | 3  | 4  | 4  | 4  | 4    |
| 19   | 6  | 4  | 1  | 3  | 5  | 4  | 5  | 8  | 7  | 7  | 14 | 6  | 6  | 11 | 7  | 5  | 7  | 5  | 6  | 1  | 4  | 3  | 9  | 7  | 7    |
| 20   | 4  | 4  | 2  | 5  | 6  | 4  | 4  | 8  | 13 | 7  | 14 | 16 | 6  | 11 | 20 | 7  | 7  | 5  | 6  | 3  | 4  | 4  | 9  | 7  | 7    |
| 21   | 6  | 6  | 10 | 2  | 4  | 12 | 4  | 14 | 13 | 18 | 14 | 18 | 25 | 16 | 12 | 14 | 14 | 4  | 7  | 3  | 5  | 47 | 30 | 7  | 13   |
| 22   | 8  | 8  | 9  | 4  | 14 | 12 | 9  | 14 | 13 | 10 | 14 | 15 | 24 | 15 | 12 | 19 | 13 | 4  | 2  | 7  | 5  | 3  | 8  | 8  | 11   |
| 23   | 5  | 9  | 13 | 11 | 15 | 2  | 10 | 15 | 16 | 20 | 14 | 13 | 9  | 18 | 8  | 13 | 8  | 9  | 8  | 11 | 12 | 6  | 5  | 4  | 10   |
| 24   | 4  | 4  | 6  | 7  | 3  | 2  | 6  | 11 | 14 | 11 | 15 | 12 | 18 | 9  | 11 | 11 | 8  | 7  | 5  | 5  | 13 | 5  | 8  | 3  | 11   |
| 25   | 7  | 15 | 26 | 6  | 19 | 25 | 10 | 22 | 9  | 23 | 11 | 5  | 5  | 7  | 8  | 15 | 10 | 12 | 7  | 17 | 13 | 8  | 6  | 4  | 12   |
| 26   | 3  | 5  | 16 | 10 | 11 | 4  | 7  | 3  | 8  | 7  | 20 | 12 | 23 | 4  | 9  | 8  | 4  | 7  | 5  | 3  | 7  | 5  | 6  | 15 | 9    |
| 27   | 6  | 11 | 8  | 7  | 8  | 5  | 6  | 6  | 7  | 19 | 20 | 7  | 6  | 7  | 8  | 7  | 2  | 2  | 3  | 7  | 4  | 4  | 5  | 2  | 7    |
| 28   | 8  | 4  | 5  | 5  | 7  | 4  | 6  | 9  | 13 | 16 | 7  | 19 | 9  | 11 | 13 | 15 | 12 | 6  | 5  | 6  | 5  | 18 | 13 | 4  | 8    |
| 29   | 20 | 13 | 3  | 4  | 7  | 3  | 3  | 10 | 12 | 13 | 12 | 14 | 16 | 15 | 13 | 9  | 8  | 4  | 2  | 7  | 4  | 6  | 2  | 2  | 7    |
| 30   | 6  | 6  | 9  | 6  | 8  | 6  | 6  | 9  | 11 | 12 | 13 | 12 | 12 | 11 | 11 | 10 | 9  | 7  | 5  | 2  | 6  | 2  | 7  | 7  | 7    |
| MEAN |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |

TOTAL NUMBER OF OBSERVATIONS = 7488 MEAN = 9.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 200 FEET  
 TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 8  | 2  | 2  | 11 | 5  | 2  | 2  | 3  | 13 | 5  | 14 | 18 | 21 | 14 | 9  | 9  | 10 | 9  | 11 | 2  | 2  | 5  | 5  | 11 | 7    |
| 2    | 11 | 2  | 1  | 10 | 6  | 4  | 2  | 3  | 15 | 20 | 40 | 18 | 14 | 13 | 12 | 7  | 10 | 8  | 17 | 5  | 3  | 3  | 9  | 8  | 8    |
| 3    | 7  | 10 | 22 | 12 | 7  | 3  | 1  | 4  | 21 | 27 | 24 | 19 | 28 | 17 | 26 | 13 | 20 | 17 | 4  | 10 | 23 | 2  | 1  | 2  | 10   |
| 4    | 1  | 5  | 9  | 7  | 7  | 8  | 5  | 4  | 7  | 6  | 3  | 5  | 10 | 12 | 9  | 7  | 5  | 4  | 3  | 1  | 9  | 1  | 2  | 4  | 13   |
| 5    | 2  | 3  | 3  | 5  | 1  | 5  | 8  | 6  | 13 | 7  | 7  | 8  | 7  | 8  | 5  | 6  | 9  | 6  | 5  | 4  | 7  | 2  | 5  | 3  | 5    |
| 6    | 8  | 12 | 5  | 6  | 6  | 5  | 8  | 5  | 6  | 6  | 5  | 13 | 8  | 8  | 10 | 12 | 7  | 5  | 4  | 9  | 10 | 6  | 6  | 6  | 6    |
| 7    | 6  | 4  | 6  | 7  | 3  | 4  | 9  | 3  | 5  | 12 | 4  | 7  | 9  | 6  | 6  | 11 | 7  | 8  | 5  | 6  | 13 | 7  | 6  | 4  | 7    |
| 8    | 2  | 4  | 5  | 3  | 6  | 8  | 14 | 4  | 5  | 7  | 15 | 6  | 7  | 9  | 7  | 6  | 7  | 7  | 3  | 3  | 3  | 2  | 5  | 4  | 1    |
| 9    | 1  | 2  | 4  | 4  | 6  | 5  | 12 | 10 | 9  | 7  | 6  | 7  | 7  | 9  | 6  | 7  | 7  | 7  | 5  | 5  | 5  | 2  | 2  | 5  | 1    |
| 10   | 1  | 2  | 4  | 3  | 6  | 6  | 6  | 7  | 5  | 16 | 38 | 14 | 13 | 11 | 6  | 7  | 4  | 6  | 4  | 2  | 3  | 3  | 2  | 7  | 6    |
| 11   | 2  | 9  | 3  | 4  | 2  | 5  | 2  | 6  | 3  | 13 | 23 | 31 | 12 | 12 | 12 | 16 | 11 | 10 | 1  | 5  | 4  | 5  | 7  | 6  | 6    |
| 12   | 1  | 6  | 4  | 4  | 5  | 11 | 6  | 4  | 27 | 13 | 15 | 13 | 8  | 8  | 7  | 5  | 14 | 3  | 6  | 2  | 11 | 3  | 7  | 5  | 1    |
| 13   | 2  | 1  | 3  | 3  | 5  | 5  | 12 | 7  | 3  | 34 | 3  | 5  | 6  | 5  | 6  | 7  | 5  | 3  | 3  | 5  | 3  | 4  | 2  | 4  | 1    |
| 14   | 3  | 6  | 4  | 3  | 6  | 6  | 6  | 10 | 6  | 6  | 10 | 4  | 7  | 3  | 7  | 4  | 7  | 3  | 4  | 5  | 7  | 7  | 7  | 3  | 1    |
| 15   | 2  | 9  | 3  | 4  | 2  | 5  | 2  | 7  | 5  | 7  | 5  | 7  | 7  | 9  | 7  | 7  | 7  | 7  | 6  | 2  | 5  | 5  | 2  | 5  | 1    |
| 16   | 3  | 1  | 3  | 4  | 5  | 11 | 6  | 6  | 27 | 13 | 23 | 14 | 12 | 11 | 20 | 7  | 11 | 10 | 5  | 11 | 3  | 3  | 7  | 4  | 1    |
| 17   | 9  | 6  | 4  | 3  | 14 | 3  | 3  | 17 | 23 | 34 | 15 | 13 | 8  | 5  | 6  | 5  | 5  | 3  | 3  | 5  | 4  | 11 | 7  | 7  | 1    |
| 18   | 6  | 2  | 5  | 3  | 3  | 4  | 5  | 7  | 6  | 6  | 3  | 5  | 6  | 5  | 7  | 7  | 8  | 3  | 4  | 5  | 3  | 6  | 4  | 4  | 1    |
| 19   | 2  | 5  | 7  | 4  | 5  | 4  | 8  | 7  | 7  | 5  | 10 | 5  | 7  | 8  | 4  | 4  | 7  | 13 | 6  | 4  | 7  | 4  | 2  | 3  | 3    |
| 20   | 5  | 6  | 8  | 4  | 3  | 5  | 8  | 7  | 15 | 32 | 14 | 14 | 20 | 16 | 21 | 18 | 15 | 5  | 4  | 3  | 4  | 4  | 5  | 6  | 3    |
| 21   | 4  | 6  | 3  | 2  | 7  | 7  | 5  | 24 | 17 | 10 | 14 | 18 | 25 | 14 | 18 | 17 | 16 | 3  | 5  | 2  | 24 | 24 | 28 | 28 | 1    |
| 22   | 14 | 2  | 5  | 8  | 7  | 0  | 4  | 10 | 14 | 10 | 15 | 16 | 16 | 12 | 28 | 17 | 10 | 5  | 8  | 5  | 8  | 4  | 4  | 5  | 1    |
| 23   | 2  | 2  | 8  | 4  | 3  | 6  | 5  | 13 | 16 | 19 | 13 | 10 | 6  | 17 | 20 | 14 | 3  | 7  | 3  | 14 | 9  | 10 | 10 | 9  | 1    |
| 24   | 11 | 12 | 14 | 7  | 7  | 2  | 11 | 26 | 11 | 10 | 17 | 12 | 6  | 12 | 7  | 9  | 7  | 6  | 6  | 3  | 23 | 16 | 23 | 3  | 3    |
| 25   | 7  | 4  | 3  | 3  | 11 | 30 | 10 | 12 | 10 | 29 | 12 | 7  | 12 | 8  | 7  | 8  | 9  | 10 | 2  | 7  | 5  | 11 | 11 | 17 | 3    |
| 26   | 7  | 20 | 29 | 33 | 27 | 9  | 5  | 20 | 10 | 8  | 9  | 9  | 5  | 5  | 7  | 13 | 4  | 4  | 2  | 2  | 10 | 4  | 5  | 3  | 3    |
| 27   | 3  | 4  | 16 | 24 | 24 | 6  | 3  | 5  | 7  | 17 | 22 | 15 | 7  | 4  | 5  | 6  | 4  | 4  | 2  | 7  | 19 | 16 | 31 | 17 | 7    |
| 28   | 5  | 5  | 4  | 3  | 5  | 6  | 8  | 3  | 7  | 18 | 10 | 14 | 9  | 7  | 5  | 4  | 11 | 7  | 4  | 7  | 16 | 4  | 5  | 3  | 3    |
| 29   | 9  | 11 | 10 | 5  | 5  | 6  | 28 | 10 | 16 | 18 | 10 | 14 | 9  | 7  | 12 | 13 | 10 | 2  | 2  | 8  | 3  | 3  | 2  | 17 | 2    |
| 30   | 16 | 11 | 3  | 2  | 3  | 6  | 4  | 8  | 12 | 12 | 9  | 16 | 18 | 15 | 12 | 7  | 8  | 7  | 3  | 2  | 2  | 2  | 1  | 1  | 6    |
| MEAN | 6  | 6  | 7  | 7  | 7  | 6  | 8  | 9  | 11 | 14 | 14 | 12 | 12 | 10 | 11 | 9  | 9  | 7  | 5  | 5  | 7  | 6  | 7  | 6  | 6    |

TOTAL NUMBER OF OBSERVATIONS = 7489 MEAN = 9.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 200 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 5  | 4  | 4  | 14 | 6  | 2  | 1  | 3  | 8  | 4  | 7  | 17 | 19 | 20 | 10 | 5  | 9  | 7  | 10 | 3  | 1  | 4  | 5  | 7  | 6    |
| 2    | 7  | 3  | 1  | 11 | 7  | 2  | 2  | 2  | 13 | 18 | 37 | 15 | 16 | 29 | 23 | 9  | 11 | 8  | 23 | 6  | 2  | 2  | 5  | 7  | 8    |
| 3    | 7  | 9  | 18 | 11 | 8  | 3  | 10 | 2  | 19 | 28 | 20 | 16 | 26 | 16 | 21 | 30 | 43 | 9  | 6  | 1  | 20 | 2  | 2  | 3  | 12   |
| 4    | 3  | 4  | 8  | 7  | 2  | 6  | 5  | 2  | 6  | 3  | 6  | 5  | 7  | 18 | 31 | 22 | 17 | 2  | 3  | 2  | 9  | 1  | 5  | 2  | 12   |
| 5    | 2  | 3  | 1  | 5  | 4  | 2  | 2  | 8  | 12 | 4  | 5  | 6  | 6  | 6  | 5  | 7  | 5  | 6  | 4  | 2  | 3  | 3  | 2  | 4  | 5    |
| 6    | 2  | 3  | 7  | 5  | 4  | 1  | 7  | 5  | 5  | 6  | 7  | 10 | 8  | 7  | 2  | 10 | 13 | 5  | 10 | 2  | 5  | 6  | 5  | 5  | 6    |
| 7    | 6  | 1  | 1  | 6  | 7  | 4  | 10 | 5  | 4  | 11 | 4  | 4  | 10 | 5  | 4  | 15 | 7  | 7  | 4  | 3  | 4  | 2  | 3  | 4  | 6    |
| 8    | 3  | 4  | 6  | 4  | 4  | 7  | 7  | 5  | 2  | 6  | 15 | 4  | 7  | 7  | 6  | 8  | 4  | 6  | 4  | 3  | 3  | 3  | 4  | 8  | 6    |
| 9    | 1  | 1  | 1  | 4  | 5  | 5  | 9  | 8  | 7  | 6  | 3  | 7  | 8  | 6  | 7  | 6  | 5  | 12 | 4  | 4  | 5  | 4  | 4  | 4  | 7    |
| 10   | 7  | 10 | 4  | 3  | 1  | 4  | 4  | 5  | 4  | 6  | 3  | 3  | 5  | 8  | 15 | 10 | 5  | 3  | 2  | 2  | 5  | 4  | 4  | 2  | 5    |
| 11   | 4  | 4  | 1  | 6  | 4  | 7  | 1  | 4  | 4  | 14 | 33 | 13 | 11 | 8  | 10 | 10 | 10 | 8  | 2  | 4  | 5  | 4  | 4  | 2  | 7    |
| 12   | 7  | 6  | 8  | 8  | 6  | 3  | 2  | 5  | 22 | 14 | 25 | 25 | 12 | 15 | 18 | 16 | 15 | 5  | 6  | 4  | 3  | 8  | 6  | 7  | 10   |
| 13   | 5  | 2  | 4  | 3  | 18 | 6  | 5  | 13 | 28 | 34 | 14 | 18 | 6  | 8  | 6  | 14 | 8  | 5  | 0  | 5  | 2  | 10 | 2  | 3  | 9    |
| 14   | 2  | 6  | 3  | 3  | 3  | 6  | 4  | 4  | 3  | 7  | 5  | 5  | 4  | 4  | 4  | 5  | 8  | 11 | 4  | 3  | 3  | 3  | 3  | 7  | 4    |
| 15   | 8  | 5  | 9  | 4  | 4  | 5  | 4  | 7  | 4  | 5  | 9  | 13 | 3  | 9  | 4  | 5  | 8  | 6  | 2  | 2  | 14 | 22 | 22 | 40 | 5    |
| 16   | 5  | 8  | 5  | 1  | 2  | 6  | 6  | 13 | 14 | 27 | 16 | 15 | 20 | 14 | 18 | 24 | 11 | 2  | 5  | 2  | 14 | 6  | 3  | 5  | 12   |
| 17   | 17 | 2  | 2  | 5  | 6  | 3  | 6  | 11 | 25 | 10 | 15 | 12 | 23 | 14 | 21 | 18 | 15 | 6  | 3  | 4  | 8  | 6  | 11 | 6  | 11   |
| 18   | 7  | 15 | 8  | 8  | 7  | 6  | 8  | 12 | 18 | 25 | 14 | 11 | 6  | 9  | 28 | 16 | 10 | 7  | 9  | 13 | 19 | 18 | 3  | 7  | 10   |
| 19   | 5  | 6  | 3  | 4  | 2  | 2  | 3  | 12 | 12 | 9  | 19 | 13 | 12 | 16 | 8  | 11 | 6  | 5  | 10 | 12 | 5  | 10 | 17 | 2  | 8    |
| 20   | 8  | 5  | 6  | 4  | 4  | 5  | 4  | 7  | 4  | 5  | 9  | 6  | 6  | 6  | 7  | 7  | 25 | 16 | 1  | 3  | 1  | 12 | 4  | 16 | 14   |
| 21   | 5  | 17 | 2  | 1  | 2  | 3  | 6  | 11 | 25 | 27 | 16 | 15 | 23 | 14 | 21 | 18 | 15 | 6  | 3  | 4  | 8  | 6  | 3  | 5  | 7    |
| 22   | 1  | 2  | 8  | 5  | 6  | 3  | 6  | 11 | 12 | 10 | 15 | 12 | 22 | 14 | 21 | 18 | 15 | 6  | 3  | 4  | 8  | 6  | 3  | 5  | 7    |
| 23   | 7  | 15 | 8  | 8  | 7  | 6  | 8  | 12 | 18 | 25 | 14 | 11 | 6  | 9  | 28 | 16 | 10 | 7  | 9  | 13 | 19 | 18 | 3  | 7  | 10   |
| 24   | 5  | 6  | 3  | 4  | 2  | 2  | 3  | 12 | 12 | 9  | 19 | 13 | 12 | 16 | 8  | 11 | 6  | 5  | 10 | 12 | 5  | 10 | 17 | 2  | 8    |
| 25   | 7  | 16 | 22 | 33 | 29 | 21 | 17 | 20 | 10 | 25 | 10 | 6  | 6  | 13 | 6  | 15 | 25 | 16 | 1  | 3  | 1  | 12 | 4  | 16 | 14   |
| 26   | 3  | 4  | 16 | 26 | 23 | 10 | 10 | 4  | 7  | 6  | 11 | 11 | 12 | 5  | 4  | 6  | 3  | 3  | 2  | 3  | 2  | 5  | 10 | 26 | 3    |
| 27   | 5  | 3  | 5  | 9  | 4  | 4  | 5  | 5  | 5  | 18 | 25 | 5  | 4  | 6  | 5  | 5  | 9  | 4  | 2  | 5  | 15 | 12 | 4  | 14 | 8    |
| 28   | 8  | 9  | 19 | 3  | 4  | 7  | 30 | 8  | 16 | 21 | 13 | 13 | 11 | 8  | 11 | 11 | 8  | 4  | 2  | 8  | 10 | 12 | 26 | 3  | 10   |
| 29   | 13 | 7  | 2  | 3  | 3  | 7  | 4  | 7  | 13 | 9  | 9  | 13 | 16 | 13 | 10 | 7  | 5  | 5  | 2  | 1  | 3  | 1  | 2  | 2  | 2    |
| 30   | 6  | 6  | 6  | 7  | 7  | 6  | 7  | 8  | 11 | 13 | 13 | 11 | 11 | 11 | 11 | 11 | 10 | 7  | 5  | 4  | 6  | 6  | 3  | 6  | 6    |
| MEAN | 6  | 6  | 6  | 7  | 7  | 6  | 6  | 7  | 8  | 11 | 13 | 11 | 11 | 11 | 11 | 11 | 11 | 10 | 7  | 5  | 4  | 6  | 6  | 6  | 6    |

TOTAL NUMBER OF OBSERVATIONS = 7480 MEAN = 9.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF RELATIVE HUMIDITY AT 8 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | 54   | 54  | 55  | 65  | 81  | 90  | 95  | 96  | 93  | 85  | 89  | 92  | 95  | 99  | 89  | 82  | 76  | 82  | 97  | 98  | 98  | 94  | 97  | 99  |
| 2    | 94   | 95  | 93  | 92  | 94  | 95  | 96  | 95  | 93  | 91  | 85  | 92  | 96  | 87  | 92  | 94  | 93  | 85  | 97  | 98  | 98  | 98  | 98  | 99  |
| 3    | 99   | 98  | 99  | 98  | 98  | 98  | 98  | 98  | 99  | 96  | 92  | 89  | 84  | 80  | 78  | 77  | 75  | 74  | 76  | 77  | 84  | 86  | 93  | 95  |
| 4    | 94   | 93  | 90  | 88  | 85  | 85  | 86  | 86  | 80  | 74  | 72  | 71  | 73  | 70  | 67  | 67  | 72  | 70  | 71  | 83  | 85  | 88  | 89  | 90  |
| 5    | 90   | 89  | 90  | 89  | 90  | 89  | 89  | 88  | 86  | 84  | 82  | 80  | 75  | 72  | 69  | 62  | 61  | 59  | 57  | 58  | 61  | 65  | 65  | 67  |
| 6    | 68   | 66  | 66  | 67  | 69  | 68  | 69  | 66  | 66  | 57  | 54  | 52  | 51  | 49  | 47  | 45  | 46  | 48  | 49  | 50  | 51  | 48  | 46  | 47  |
| 7    | 50   | 48  | 52  | 53  | 52  | 52  | 52  | 56  | 52  | 49  | 46  | 46  | 45  | 46  | 45  | 44  | 45  | 45  | 47  | 47  | 51  | 53  | 51  | 53  |
| 8    | 54   | 55  | 54  | 55  | 53  | 53  | 54  | 52  | 49  | 46  | 44  | 44  | 44  | 43  | 43  | 43  | 42  | 42  | 42  | 40  | 43  | 43  | 42  | 40  |
| 9    | 41   | 42  | 43  | 43  | 43  | 41  | 42  | 41  | 39  | 38  | 37  | 37  | 36  | 35  | 34  | 34  | 34  | 35  | 37  | 39  | 40  | 40  | 40  | 40  |
| 10   | 41   | 41  | 42  | 42  | 43  | 42  | 42  | 39  | 34  | 36  | 36  | 36  | 35  | 35  | 35  | 35  | 34  | 34  | 35  | 37  | 38  | 40  | 41  | 41  |
| 11   | 43   | 44  | 46  | 48  | 50  | 58  | 60  | 62  | 67  | 97  | 99  | 92  | 70  | 67  | 68  | 67  | 66  | 77  | 94  | 95  | 95  | 96  | 95  | 95  |
| 12   | 96   | 99  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 98  | 95  | 96  | 94  | 91  | 88  | 88  | 91  | 92  | 98  | 98  | 98  | 98  |
| 13   | 99   | 99  | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 98  | 96  | 84  | 71  | 77  | 72  | 69  | 68  | 67  | 69  | 70  | 71  | 72  | 69  | 74  |
| 14   | 71   | 71  | 69  | 68  | 68  | 64  | 63  | 58  | 53  | 46  | 43  | 44  | 44  | 43  | 42  | 41  | 41  | 42  | 59  | 64  | 63  | 81  | 89  | 90  |
| 15   | 92   | 92  | 90  | 89  | 87  | 87  | 92  | 97  | 99  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 16   | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 97  | 93  | 93  | 87  | 82  | 78  | 75  | 73  | 74  | 74  | 85  | 87  | 88  | 89  |
| 17   | 89   | 91  | 91  | 92  | 90  | 86  | 86  | 82  | 77  | 66  | 61  | 55  | 52  | 45  | 44  | 45  | 50  | 57  | 57  | 61  | 63  | 64  | 64  | 66  |
| 18   | 68   | 75  | 82  | 89  | 92  | 94  | 94  | 89  | 86  | 79  | 72  | 59  | 45  | 44  | 44  | 44  | 44  | 70  | 78  | 88  | 96  | 98  | 99  | 99  |
| 19   | 97   | 99  | 99  | 100 | 100 | 100 | 100 | 100 | 99  | 97  | 97  | 97  | 99  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 20   | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 97  | 88  | 40  | 69  | 62  | 55  | 53  | 45  | 42  | 43  | 43  | 46  | 49  | 53  | 54  |
| 21   | 54   | 54  | 57  | 56  | 55  | 59  | 59  | 57  | 51  | 39  | 39  | 38  | 39  | 38  | 38  | 39  | 40  | 40  | 40  | 42  | 45  | 45  | 44  | 45  |
| 22   | 44   | 42  | 43  | 42  | 43  | 42  | 45  | 44  | 41  | 42  | 40  | 38  | 37  | 36  | 36  | 36  | 37  | 37  | 38  | 39  | 41  | 42  | 44  | 44  |
| 23   | 44   | 44  | 45  | 46  | 47  | 47  | 48  | 47  | 46  | 42  | 45  | 41  | 39  | 36  | 36  | 36  | 36  | 37  | 37  | 38  | 39  | 42  | 43  | 45  |
| 24   | 45   | 45  | 47  | 54  | 59  | 60  | 58  | 53  | 51  | 48  | 45  | 41  | 39  | 38  | 37  | 37  | 38  | 38  | 39  | 40  | 43  | 45  | 46  | 49  |
| 25   | 48   | 48  | 51  | 51  | 50  | 50  | 53  | 51  | 47  | 42  | 41  | 40  | 40  | 40  | 40  | 38  | 38  | 39  | 40  | 42  | 46  | 46  | 47  | 47  |
| 26   | 48   | 50  | 52  | 52  | 52  | 54  | 53  | 50  | 45  | 44  | 42  | 43  | 45  | 43  | 43  | 43  | 43  | 41  | 42  | 46  | 47  | 47  | 47  | 48  |
| 27   | 50   | 53  | 55  | 55  | 56  | 55  | 54  | 55  | 52  | 49  | 48  | 48  | 68  | 72  | 64  | 59  | 63  | 64  | 66  | 74  | 80  | 80  | 84  | 86  |
| 28   | 86   | 90  | 94  | 95  | 96  | 95  | 96  | 83  | 83  | 79  | 75  | 75  | 83  | 73  | 71  | 76  | 75  | 76  | 78  | 81  | 82  | 85  | 85  | 85  |
| 29   | 82   | 84  | 84  | 84  | 86  | 87  | 88  | 84  | 74  | 66  | 59  | 53  | 54  | 52  | 51  | 51  | 49  | 48  | 52  | 57  | 60  | 60  | 59  | 62  |
| 30   | 63   | 67  | 67  | 66  | 66  | 68  | 67  | 62  | 55  | 48  | 47  | 45  | 42  | 42  | 43  | 42  | 42  | 42  | 43  | 46  | 48  | 48  | 48  | 49  |
| MEAN | 70   | 71  | 72  | 73  | 73  | 74  | 75  | 73  | 71  | 69  | 67  | 63  | 62  | 60  | 58  | 58  | 57  | 58  | 62  | 64  | 66  | 68  | 69  | 69  |

TOTAL NUMBER OF OBSERVATIONS = 8536 MEAN = 67.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 30 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 53  | 53  | 53  | 69  | 85  | 96  | 99  | 99  | 97  | 93  | 87  | 89  | 93  | 98  | 86  | 78  | 72  | 80  | 96  | 96  | 95  | 90  | 94  | 97  | 85   |
| 2    | 92  | 92  | 90  | 88  | 92  | 92  | 94  | 93  | 90  | 88  | 82  | 91  | 94  | 83  | 89  | 92  | 91  | 82  | 95  | 96  | 96  | 95  | 96  | 98  | 91   |
| 3    | 97  | 97  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 96  | 89  | 90  | 83  | 79  | 77  | 76  | 75  | 73  | 74  | 75  | 79  | 86  | 94  | 95  | 88   |
| 4    | 90  | 90  | 87  | 85  | 82  | 82  | 83  | 85  | 80  | 75  | 73  | 72  | 73  | 71  | 68  | 68  | 74  | 71  | 72  | 86  | 88  | 90  | 90  | 91  | 80   |
| 5    | 91  | 89  | 87  | 87  | 90  | 89  | 89  | 89  | 85  | 82  | 80  | 79  | 73  | 70  | 67  | 59  | 58  | 56  | 55  | 57  | 59  | 63  | 65  | 67  | 74   |
| 6    | 68  | 67  | 66  | 67  | 69  | 68  | 68  | 68  | 63  | 55  | 52  | 50  | 49  | 47  | 44  | 43  | 44  | 46  | 46  | 48  | 50  | 49  | 47  | 46  | 55   |
| 7    | 49  | 50  | 53  | 53  | 52  | 51  | 54  | 53  | 50  | 47  | 45  | 44  | 44  | 45  | 44  | 44  | 44  | 44  | 46  | 49  | 52  | 53  | 50  | 53  | 49   |
| 8    | 50  | 53  | 53  | 53  | 52  | 52  | 53  | 52  | 45  | 42  | 41  | 42  | 41  | 41  | 41  | 40  | 40  | 39  | 39  | 41  | 41  | 40  | 40  | 40  | 45   |
| 9    | 41  | 42  | 42  | 44  | 44  | 42  | 43  | 42  | 41  | 40  | 40  | 39  | 38  | 37  | 37  | 37  | 37  | 37  | 38  | 38  | 39  | 40  | 42  | 41  | 40   |
| 10   | 42  | 42  | 44  | 43  | 44  | 44  | 43  | 41  | 39  | 39  | 39  | 39  | 38  | 38  | 38  | 38  | 37  | 37  | 38  | 38  | 39  | 40  | 42  | 43  | 40   |
| 11   | 47  | 47  | 48  | 50  | 51  | 56  | 59  | 62  | 68  | 97  | 97  | 90  | 67  | 66  | 67  | 67  | 66  | 77  | 97  | 96  | 97  | 97  | 96  | 97  | 73   |
| 12   | 91  | 95  | 97  | 98  | 100 | 100 | 100 | 100 | 100 | 98  | 99  | 98  | 94  | 95  | 93  | 89  | 87  | 86  | 87  | 90  | 93  | 96  | 97  | 98  | 95   |
| 13   | 93  | 94  | 96  | 96  | 98  | 99  | 97  | 98  | 96  | 96  | 94  | 81  | 68  | 77  | 71  | 69  | 67  | 67  | 63  | 67  | 66  | 65  | 64  | 68  | 81   |
| 14   | 66  | 63  | 62  | 63  | 63  | 61  | 61  | 57  | 54  | 46  | 44  | 45  | 45  | 44  | 45  | 44  | 43  | 45  | 57  | 61  | 61  | 80  | 86  | 86  | 58   |
| 15   | 90  | 90  | 89  | 87  | 85  | 85  | 91  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 96   |
| 16   | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 95  | 97  | 91  | 86  | 80  | 76  | 73  | 71  | 71  | 74  | 78  | 80  | 83  | 86  | 89   |
| 17   | 82  | 86  | 84  | 86  | 80  | 79  | 78  | 78  | 69  | 59  | 55  | 50  | 47  | 45  | 44  | 45  | 49  | 55  | 55  | 57  | 59  | 63  | 62  | 64  | 64   |
| 18   | 72  | 79  | 84  | 90  | 93  | 95  | 96  | 93  | 86  | 79  | 72  | 60  | 46  | 45  | 45  | 45  | 45  | 68  | 81  | 90  | 97  | 99  | 99  | 100 | 78   |
| 19   | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100  |
| 20   | 98  | 98  | 97  | 96  | 96  | 97  | 97  | 96  | 96  | 93  | 89  |     | 66  | 60  | 54  | 52  | 49  | 44  | 45  | 45  | 48  | 50  | 51  | 54  | 73   |
| 21   | 51  | 52  | 52  | 53  | 51  | 54  | 57  | 57  | 51  |     |     | 42  | 41  | 41  | 40  | 41  | 42  | 43  | 42  | 43  | 45  | 45  | 44  | 45  | 47   |
| 22   | 43  | 42  | 41  | 41  | 41  | 42  | 44  | 46  | 43  | 41  | 41  | 40  | 40  | 39  | 40  | 40  | 40  | 40  | 41  | 41  | 42  | 43  | 43  | 44  | 42   |
| 23   | 46  | 45  | 47  | 46  | 47  | 46  | 49  | 50  | 48  | 45  | 43  | 39  | 38  | 38  | 38  | 37  | 38  | 39  | 39  | 39  | 40  | 41  | 43  | 43  | 43   |
| 24   | 46  | 47  | 48  | 54  | 53  | 56  | 53  | 56  | 53  | 50  | 47  | 42  | 41  | 40  | 39  | 39  | 39  | 40  | 41  | 42  | 43  | 43  | 44  | 45  | 46   |
| 25   | 46  | 46  | 47  | 49  | 48  | 48  | 51  | 52  | 47  | 43  | 42  | 42  | 41  | 41  | 41  | 39  | 39  | 41  | 42  | 44  | 46  | 46  | 47  | 48  | 45   |
| 26   | 48  | 50  | 52  | 52  | 51  | 53  | 53  | 50  | 47  | 45  | 43  | 44  | 47  | 45  | 44  | 44  | 44  | 42  | 44  | 47  | 47  | 48  | 48  | 48  | 47   |
| 27   | 50  | 52  | 55  | 55  | 56  | 55  | 52  | 56  | 53  | 50  |     | 50  | 64  | 69  | 62  | 58  | 62  | 64  | 66  | 74  | 78  | 78  | 83  | 84  | 62   |
| 28   | 86  | 88  | 91  | 92  | 92  | 93  | 94  | 83  | 79  | 75  | 72  | 73  | 79  | 70  | 69  | 75  | 74  | 75  | 76  | 79  | 80  | 81  | 82  | 82  | 81   |
| 29   | 82  | 83  | 83  | 82  | 85  | 85  | 88  | 84  | 75  | 67  | 60  | 55  | 56  | 54  | 52  | 52  | 50  | 49  | 53  | 58  | 61  | 60  | 57  | 61  | 66   |
| 30   | 63  | 67  | 66  | 65  | 65  | 67  | 67  | 64  | 54  | 48  | 46  | 44  | 42  | 42  | 43  | 42  | 41  | 42  | 43  | 45  | 47  | 47  | 47  | 47  | 52   |
| MEAN | 69  | 70  | 70  | 71  | 72  | 73  | 74  | 73  | 71  | 69  | 67  | 63  | 61  | 60  | 58  | 58  | 57  | 58  | 61  | 64  | 66  | 67  | 68  | 69  |      |

TOTAL NUMBER OF OBSERVATIONS = 8540 MEAN = 67.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF RELATIVE HUMIDITY AT 100 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | 56   | 56  | 55  | 69  | 89  | 100 | 100 | 100 | 100 | 98  | 93  | 93  | 97  | 100 | 92  | 83  | 76  | 82  | 97  | 99  | 99  | 94  | 98  | 100 |
| 2    | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98  | 100 | 100 | 99  | 100 | 100 | 100 | 97  | 100 | 100 | 100 | 100 | 100 | 100 |
| 3    | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98  | 91  | 86  | 83  | 81  | 80  | 77  | 78  | 79  | 80  | 88  | 98  | 98  |
| 4    | 92   | 92  | 89  | 88  | 86  | 85  | 85  | 86  | 83  | 79  | 76  | 75  | 75  | 72  | 69  | 68  | 75  | 72  | 73  | 86  | 89  | 92  | 92  | 92  |
| 5    | 92   | 91  | 89  | 88  | 90  | 91  | 91  | 91  | 88  | 85  | 83  | 81  | 75  | 71  | 68  | 64  | 62  | 60  | 59  | 60  | 61  | 63  | 68  | 67  |
| 6    | 70   | 69  | 69  | 67  | 70  | 71  | 70  | 71  | 68  | 59  | 55  | 52  | 51  | 49  | 46  | 44  | 45  | 47  | 47  | 46  | 49  | 50  | 48  | 47  |
| 7    | 48   | 49  | 51  | 52  | 53  | 52  | 54  | 55  | 52  | 48  | 46  | 45  | 45  | 45  | 44  | 44  | 44  | 44  | 45  | 48  | 51  | 53  | 50  | 51  |
| 8    | 52   | 53  | 54  | 54  | 53  | 54  | 54  | 54  | 49  | 45  | 43  | 44  | 42  | 42  | 42  | 41  | 41  | 40  | 40  | 40  | 40  | 40  | 41  | 41  |
| 9    | 42   | 42  | 43  | 45  | 45  | 44  | 46  | 45  | 43  | 42  | 41  | 40  | 38  | 37  | 37  | 37  | 37  | 38  | 39  | 40  | 41  | 41  | 42  | 43  |
| 10   | 43   | 43  | 45  | 45  | 45  | 45  | 44  | 43  | 40  | 40  | 39  | 39  | 38  | 38  | 38  | 38  | 37  | 37  | 38  | 39  | 40  | 40  | 43  | 45  |
| 11   | 47   | 47  | 48  | 49  | 50  | 57  | 61  | 65  | 70  | 97  | 99  | 95  | 71  | 68  | 69  | 69  | 68  | 78  | 98  | 98  | 99  | 97  | 97  | 99  |
| 12   | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 99  | 95  | 92  | 91  | 91  | 91  | 93  | 98  | 100 | 100 |
| 13   | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 97  | 85  | 69  | 76  | 72  | 69  | 67  | 67  | 67  | 70  | 67  | 65  | 66  | 68  |
| 14   | 68   | 64  | 64  | 65  | 65  | 64  | 63  | 60  | 57  | 49  | 46  | 46  | 45  | 45  | 45  | 44  | 43  | 44  | 58  | 64  | 64  | 82  | 90  | 92  |
| 15   | 91   | 91  | 90  | 88  | 87  | 87  | 93  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 16   | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 98  | 92  | 85  | 80  | 77  | 74  | 73  | 74  | 79  | 80  | 82  | 84  |
| 17   | 86   | 90  | 88  | 86  | 86  | 84  | 81  | 83  | 76  | 66  | 60  | 54  | 49  | 47  | 46  | 46  | 50  | 54  | 56  | 56  | 58  | 66  | 66  | 69  |
| 18   | 72   | 77  | 85  | 91  | 94  | 95  | 96  | 96  | 89  | 82  | 74  | 59  | 47  | 46  | 46  | 45  | 45  | 70  | 82  | 91  | 99  | 100 | 100 | 100 |
| 19   | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 20   | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 96  | 45  | 70  | 62  | 55  | 52  | 49  | 46  | 46  | 46  | 50  | 50  | 51  | 54  |
| 21   | 54   | 54  | 56  | 55  | 54  | 57  | 57  | 59  | 56  | 43  | 42  | 41  | 43  | 42  | 42  | 42  | 43  | 44  | 43  | 43  | 46  | 46  | 45  | 45  |
| 22   | 44   | 43  | 42  | 42  | 42  | 43  | 44  | 48  | 45  | 43  | 42  | 41  | 40  | 39  | 39  | 40  | 40  | 40  | 40  | 41  | 42  | 43  | 43  | 44  |
| 23   | 45   | 46  | 47  | 47  | 48  | 47  | 50  | 52  | 51  | 46  | 44  | 41  | 39  | 39  | 38  | 38  | 38  | 39  | 40  | 40  | 42  | 43  | 44  | 44  |
| 24   | 46   | 47  | 48  | 52  | 54  | 55  | 56  | 57  | 56  | 52  | 48  | 44  | 42  | 41  | 39  | 39  | 40  | 40  | 42  | 42  | 43  | 44  | 46  | 47  |
| 25   | 48   | 48  | 48  | 50  | 50  | 50  | 51  | 54  | 51  | 46  | 44  | 43  | 42  | 42  | 42  | 40  | 40  | 42  | 42  | 45  | 46  | 46  | 48  | 49  |
| 26   | 49   | 51  | 52  | 53  | 53  | 53  | 54  | 53  | 49  | 47  | 45  | 46  | 49  | 47  | 46  | 46  | 46  | 44  | 45  | 47  | 47  | 48  | 50  | 51  |
| 27   | 51   | 54  | 57  | 56  | 57  | 56  | 55  | 56  | 56  | 53  | 52  | 52  | 63  | 68  | 64  | 60  | 64  | 67  | 69  | 73  | 79  | 79  | 86  | 87  |
| 28   | 88   | 89  | 92  | 94  | 94  | 93  | 94  | 84  | 82  | 78  | 74  | 75  | 79  | 72  | 71  | 77  | 76  | 77  | 78  | 80  | 82  | 83  | 83  | 83  |
| 29   | 85   | 85  | 85  | 85  | 86  | 88  | 88  | 86  | 79  | 71  | 64  | 58  | 58  | 55  | 54  | 54  | 51  | 50  | 54  | 58  | 60  | 58  | 56  | 61  |
| 30   | 62   | 67  | 67  | 66  | 65  | 67  | 66  | 66  | 58  | 51  | 49  | 46  | 43  | 43  | 44  | 43  | 42  | 42  | 44  | 45  | 46  | 47  | 47  | 47  |
| MEAN | 71   | 72  | 72  | 73  | 74  | 75  | 75  | 75  | 74  | 72  | 70  | 65  | 63  | 62  | 60  | 60  | 59  | 60  | 63  | 65  | 66  | 68  | 69  | 70  |

TOTAL NUMBER OF OBSERVATIONS = 8537 MEAN = 68.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF RELATIVE HUMIDITY AT 200 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | 48   | 48  | 47  | 65  | 86  | 92  | 95  | 95  | 94  | 93  | 84  | 84  | 90  | 97  | 87  | 79  | 72  | 80  | 93  | 96  | 96  | 90  | 96  | 99  |
| 2    | 95   | 94  | 90  | 89  | 93  | 92  | 94  | 97  | 95  | 93  | 85  | 96  | 99  | 87  | 94  | 98  | 97  | 85  | 96  | 97  | 98  | 96  | 97  | 99  |
| 3    | 100  | 98  | 98  | 98  | 98  | 98  | 98  | 98  | 98  | 98  | 97  | 91  | 88  | 82  | 79  | 77  | 76  | 73  | 74  | 74  | 75  | 87  | 97  | 95  |
| 4    | 89   | 88  | 84  | 84  | 82  | 81  | 80  | 79  | 78  | 76  | 73  | 73  | 73  | 70  | 66  | 66  | 74  | 70  | 71  | 84  | 87  | 90  | 91  | 92  |
| 5    | 90   | 89  | 87  | 86  | 87  | 88  | 89  | 89  | 87  | 84  | 82  | 80  | 74  | 70  | 66  | 62  | 60  | 58  | 57  | 58  | 59  | 59  | 63  | 63  |
| 6    | 64   | 63  | 63  | 63  | 66  | 67  | 66  | 66  | 65  | 57  | 54  | 51  | 51  | 49  | 46  | 45  | 46  | 48  | 47  | 46  | 48  | 49  | 47  | 46  |
| 7    | 47   | 48  | 49  | 51  | 51  | 50  | 51  | 51  | 52  | 46  | 43  | 42  | 43  | 43  | 42  | 42  | 43  | 43  | 44  | 46  | 48  | 48  | 47  | 48  |
| 8    | 51   | 51  | 52  | 52  | 52  | 52  | 53  | 52  | 49  | 43  | 42  | 42  | 41  | 42  | 41  | 41  | 40  | 40  | 39  | 39  | 39  | 39  | 39  | 39  |
| 9    | 40   | 41  | 41  | 43  | 43  | 42  | 43  | 43  | 42  | 40  | 40  | 40  | 38  | 37  | 37  | 37  | 38  | 38  | 39  | 40  | 40  | 40  | 41  | 41  |
| 10   | 41   | 42  | 43  | 43  | 43  | 42  | 42  | 41  | 39  | 39  | 39  | 39  | 39  | 38  | 38  | 38  | 38  | 38  | 38  | 38  | 39  | 39  | 41  | 44  |
| 11   | 45   | 46  | 46  | 46  | 47  | 54  | 58  | 63  | 70  | 96  | 98  | 93  | 66  | 63  | 64  | 64  | 63  | 75  | 97  | 93  | 93  | 91  | 93  | 99  |
| 12   | 88   | 95  | 98  | 99  | 100 | 100 | 100 | 100 | 100 | 100 | 97  | 95  | 95  | 94  | 93  | 93  | 90  | 89  | 89  | 89  | 90  | 95  | 97  | 98  |
| 13   | 90   | 94  | 97  | 94  | 96  | 96  | 95  | 100 | 97  | 94  | 84  | 79  | 63  | 70  | 67  | 65  | 65  | 64  | 64  | 67  | 63  | 59  | 60  | 61  |
| 14   | 66   | 62  | 63  | 65  | 65  | 64  | 62  | 60  | 54  | 47  | 45  | 46  | 46  | 45  | 45  | 44  | 44  | 45  | 58  | 63  | 63  | 84  | 90  | 91  |
| 15   | 92   | 90  | 88  | 85  | 85  | 86  | 92  | 95  | 99  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 16   | 100  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 99  | 98  | 97  | 96  | 89  | 83  | 78  | 74  | 71  | 70  | 71  | 75  | 77  | 77  | 77  |
| 17   | 84   | 88  | 86  | 83  | 82  | 82  | 78  | 73  | 76  | 62  | 58  | 53  | 48  | 47  | 46  | 46  | 50  | 53  | 55  | 55  | 58  | 66  | 66  | 68  |
| 18   | 71   | 76  | 84  | 92  | 94  | 95  | 95  | 95  | 89  | 82  | 74  | 58  | 47  | 46  | 46  | 46  | 47  | 72  | 82  | 88  | 97  | 100 | 100 | 100 |
| 19   | 96   | 99  | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 95  | 94  | 94  | 99  | 100 | 100 | 100 | 100 | 100 | 98  | 96  | 93  | 94  | 95  | 100 |
| 20   | 99   | 99  | 96  | 97  | 97  | 99  | 95  | 94  | 93  | 91  | 88  |     | 66  | 58  | 51  | 50  | 46  | 44  | 44  | 44  | 47  | 48  | 48  | 50  |
| 21   | 50   | 50  | 51  | 51  | 50  | 51  | 51  | 53  | 53  |     | 41  | 44  | 43  | 42  | 42  | 43  | 44  | 44  | 44  | 43  | 45  | 45  | 44  | 44  |
| 22   | 44   | 43  | 42  | 41  | 41  | 42  | 42  | 45  | 42  | 40  | 41  | 40  | 38  | 38  | 38  | 39  | 39  | 39  | 39  | 40  | 40  | 41  | 41  | 42  |
| 23   | 45   | 44  | 45  | 46  | 47  | 47  | 48  | 50  | 51  | 44  | 43  | 40  | 39  | 39  | 38  | 38  | 39  | 39  | 40  | 40  | 41  | 42  | 42  | 43  |
| 24   | 47   | 48  | 49  | 52  | 51  | 54  | 51  | 57  | 57  | 51  | 47  | 43  | 42  | 41  | 39  | 40  | 40  | 41  | 42  | 42  | 42  | 43  | 44  | 45  |
| 25   | 49   | 50  | 49  | 50  | 50  | 50  | 50  | 53  | 48  | 45  | 43  | 43  | 42  | 42  | 42  | 40  | 40  | 42  | 42  | 44  | 45  | 45  | 46  | 47  |
| 26   | 47   | 49  | 50  | 51  | 51  | 51  | 52  | 51  | 48  | 47  | 45  | 46  | 48  | 46  | 46  | 46  | 45  | 44  | 45  | 46  | 46  | 46  | 48  | 50  |
| 27   | 50   | 51  | 54  | 54  | 54  | 54  | 53  | 54  | 55  | 52  | 52  | 52  | 61  | 66  | 63  | 59  | 63  | 66  | 68  | 70  | 75  | 76  | 82  | 86  |
| 28   | 88   | 89  | 92  | 93  | 92  | 89  | 88  | 81  | 80  | 77  | 72  | 73  | 76  | 70  | 68  | 75  | 75  | 76  | 76  | 79  | 80  | 81  | 81  | 81  |
| 29   | 82   | 82  | 82  | 83  | 84  | 85  | 85  | 84  | 78  | 70  | 62  | 56  | 57  | 54  | 53  | 53  | 50  | 48  | 52  | 56  | 56  | 54  | 53  | 58  |
| 30   | 64   | 67  | 65  | 65  | 65  | 67  | 66  | 66  | 57  | 49  | 48  | 45  | 43  | 42  | 43  | 43  | 42  | 42  | 44  | 44  | 45  | 46  | 45  | 45  |
| MEAN | 69   | 69  | 70  | 71  | 72  | 72  | 72  | 73  | 72  | 69  | 67  | 63  | 62  | 60  | 58  | 58  | 58  | 59  | 61  | 63  | 64  | 66  | 67  | 68  |

TOTAL NUMBER OF OBSERVATIONS = 8539 MEAN = 66.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF TEMPERATURE AT 8 FEET (DEG F)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 26 | 26 | 27 | 25 | 24 | 22 | 22 | 23 | 25 | 28 | 30 | 26 | 26 | 25 | 29 | 31 | 31 | 29 | 25 | 25 | 24 | 24 | 24 | 24 | 26   |
| 2    | 23 | 23 | 22 | 22 | 22 | 22 | 23 | 24 | 24 | 26 | 29 | 25 | 25 | 27 | 25 | 24 | 24 | 25 | 21 | 20 | 20 | 20 | 19 | 18 | 23   |
| 3    | 17 | 16 | 15 | 14 | 14 | 13 | 13 | 15 | 17 | 19 | 21 | 23 | 25 | 26 | 26 | 26 | 27 | 27 | 24 | 23 | 20 | 20 | 21 | 18 | 20   |
| 4    | 18 | 19 | 21 | 21 | 22 | 22 | 22 | 25 | 28 | 32 | 35 | 37 | 39 | 40 | 43 | 41 | 40 | 40 | 38 | 35 | 33 | 33 | 31 | 30 | 31   |
| 5    | 32 | 32 | 32 | 32 | 31 | 32 | 31 | 33 | 35 | 37 | 38 | 39 | 42 | 43 | 43 | 45 | 45 | 45 | 43 | 38 | 35 | 34 | 34 | 32 | 37   |
| 6    | 30 | 32 | 32 | 30 | 29 | 30 | 29 | 36 | 42 | 46 | 48 | 50 | 53 | 53 | 54 | 55 | 54 | 53 | 49 | 41 | 40 | 42 | 41 | 39 | 42   |
| 7    | 36 | 38 | 35 | 35 | 36 | 34 | 37 | 42 | 48 | 52 | 54 | 56 | 56 | 56 | 57 | 55 | 56 | 56 | 52 | 46 | 43 | 40 | 41 | 38 | 46   |
| 8    | 38 | 37 | 38 | 36 | 38 | 38 | 38 | 45 | 54 | 58 | 59 | 61 | 61 | 61 | 62 | 62 | 61 | 60 | 55 | 47 | 43 | 43 | 44 | 48 | 49   |
| 9    | 46 | 43 | 42 | 41 | 42 | 45 | 46 | 52 | 56 | 58 | 60 | 62 | 65 | 65 | 65 | 64 | 64 | 62 | 57 | 52 | 50 | 50 | 48 | 48 | 53   |
| 10   | 47 | 48 | 45 | 41 | 43 | 43 | 46 | 52 | 56 | 58 | 59 | 62 | 62 | 63 | 63 | 63 | 62 | 61 | 56 | 49 | 47 | 42 | 44 | 44 | 52   |
| 11   | 44 | 42 | 39 | 37 | 35 | 34 | 36 | 39 | 39 | 37 | 40 | 44 | 51 | 49 | 49 | 48 | 47 | 41 | 36 | 36 | 36 | 36 | 36 | 35 | 40   |
| 12   | 35 | 33 | 32 | 30 | 30 | 30 | 30 | 30 | 31 | 33 | 35 | 36 | 37 | 38 | 39 | 40 | 40 | 40 | 38 | 34 | 31 | 31 | 31 | 31 | 34   |
| 13   | 29 | 29 | 27 | 27 | 28 | 27 | 28 | 29 | 31 | 35 | 38 | 41 | 44 | 42 | 44 | 44 | 44 | 44 | 41 | 37 | 35 | 34 | 35 | 32 | 35   |
| 14   | 33 | 30 | 32 | 33 | 32 | 35 | 35 | 42 | 47 | 52 | 54 | 55 | 57 | 57 | 57 | 56 | 54 | 51 | 46 | 41 | 37 | 32 | 29 | 28 | 43   |
| 15   | 28 | 28 | 28 | 29 | 28 | 28 | 27 | 26 | 27 | 29 | 30 | 31 | 30 | 31 | 34 | 35 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 33 | 31   |
| 16   | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 35 | 37 | 39 | 43 | 45 | 48 | 49 | 49 | 49 | 47 | 44 | 37 | 36 | 36 | 35 | 39   |
| 17   | 35 | 33 | 34 | 33 | 32 | 34 | 34 | 39 | 46 | 51 | 54 | 56 | 59 | 60 | 61 | 59 | 57 | 55 | 53 | 48 | 46 | 46 | 44 | 42 | 46   |
| 18   | 39 | 37 | 33 | 32 | 32 | 31 | 32 | 37 | 41 | 45 | 51 | 57 | 59 | 60 | 60 | 59 | 57 | 45 | 39 | 36 | 34 | 33 | 32 | 32 | 42   |
| 19   | 31 | 31 | 30 | 29 | 29 | 28 | 28 | 28 | 30 | 31 | 31 | 31 | 30 | 29 | 28 | 29 | 29 | 29 | 29 | 28 | 28 | 27 | 27 | 26 | 29   |
| 20   | 26 | 26 | 26 | 25 | 26 | 27 | 26 | 27 | 30 | 33 | 36 | 36 | 43 | 44 | 46 | 46 | 47 | 45 | 42 | 40 | 37 | 34 | 31 | 30 | 35   |
| 21   | 31 | 30 | 28 | 28 | 28 | 26 | 29 | 36 | 42 | 52 | 56 | 51 | 53 | 54 | 55 | 54 | 54 | 52 | 52 | 46 | 41 | 41 | 41 | 38 | 41   |
| 22   | 39 | 40 | 36 | 35 | 36 | 35 | 36 | 42 | 49 | 52 | 58 | 58 | 59 | 60 | 60 | 60 | 60 | 58 | 55 | 52 | 47 | 45 | 42 | 42 | 48   |
| 23   | 41 | 41 | 38 | 38 | 36 | 36 | 37 | 43 | 48 | 53 | 58 | 62 | 63 | 63 | 63 | 65 | 64 | 63 | 60 | 57 | 52 | 46 | 44 | 43 | 51   |
| 24   | 43 | 43 | 43 | 41 | 39 | 38 | 39 | 45 | 50 | 55 | 58 | 62 | 62 | 62 | 64 | 65 | 63 | 62 | 58 | 55 | 48 | 45 | 42 | 40 | 51   |
| 25   | 41 | 40 | 37 | 38 | 39 | 39 | 41 | 47 | 53 | 56 | 59 | 61 | 62 | 62 | 62 | 63 | 63 | 60 | 57 | 53 | 49 | 48 | 47 | 47 | 51   |
| 26   | 46 | 43 | 42 | 43 | 44 | 42 | 45 | 53 | 58 | 59 | 61 | 61 | 59 | 62 | 63 | 60 | 61 | 62 | 58 | 51 | 50 | 49 | 49 | 49 | 53   |
| 27   | 46 | 45 | 42 | 44 | 42 | 45 | 48 | 49 | 54 | 58 | 52 | 59 | 49 | 51 | 55 | 56 | 53 | 53 | 51 | 47 | 45 | 44 | 43 | 42 | 48   |
| 28   | 41 | 38 | 37 | 35 | 37 | 37 | 37 | 46 | 47 | 49 | 52 | 50 | 47 | 54 | 54 | 50 | 50 | 50 | 49 | 46 | 45 | 42 | 42 | 42 | 45   |
| 29   | 41 | 41 | 40 | 39 | 39 | 40 | 40 | 44 | 50 | 53 | 56 | 58 | 58 | 60 | 60 | 61 | 61 | 59 | 56 | 53 | 49 | 48 | 46 | 45 | 50   |
| 30   | 45 | 42 | 43 | 44 | 44 | 42 | 46 | 52 | 58 | 60 | 63 | 65 | 65 | 65 | 65 | 67 | 66 | 64 | 61 | 55 | 52 | 52 | 52 | 51 | 55   |
| MEAN | 35 | 35 | 34 | 33 | 33 | 33 | 34 | 38 | 41 | 44 | 46 | 49 | 49 | 50 | 51 | 51 | 51 | 49 | 46 | 42 | 40 | 38 | 38 | 37 | 37   |

MEAN = 42.

TOTAL NUMBER OF OBSERVATIONS = 8541

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE AT 30 FEET (DEG F)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 28 | 28 | 28 | 25 | 23 | 22 | 22 | 22 | 24 | 27 | 28 | 25 | 25 | 24 | 28 | 30 | 31 | 29 | 25 | 25 | 24 | 24 | 24 | 24 | 24   |
| 2    | 24 | 23 | 22 | 23 | 22 | 23 | 22 | 23 | 24 | 25 | 28 | 24 | 24 | 27 | 24 | 23 | 23 | 24 | 21 | 20 | 20 | 20 | 19 | 18 | 24   |
| 3    | 17 | 15 | 15 | 14 | 14 | 13 | 12 | 14 | 16 | 17 | 19 | 22 | 23 | 24 | 24 | 25 | 26 | 26 | 25 | 24 | 22 | 22 | 21 | 21 | 18   |
| 4    | 22 | 21 | 22 | 22 | 24 | 24 | 24 | 24 | 28 | 32 | 34 | 37 | 38 | 39 | 42 | 41 | 40 | 40 | 39 | 35 | 34 | 34 | 33 | 32 | 32   |
| 5    | 32 | 33 | 34 | 33 | 32 | 32 | 32 | 33 | 35 | 36 | 37 | 38 | 41 | 42 | 43 | 44 | 44 | 45 | 44 | 42 | 40 | 37 | 35 | 34 | 37   |
| 6    | 33 | 34 | 34 | 33 | 32 | 32 | 33 | 36 | 42 | 46 | 48 | 50 | 52 | 53 | 54 | 55 | 55 | 54 | 52 | 47 | 44 | 44 | 43 | 44 | 44   |
| 7    | 41 | 40 | 38 | 39 | 39 | 40 | 38 | 42 | 48 | 52 | 54 | 56 | 56 | 57 | 57 | 57 | 57 | 57 | 55 | 50 | 46 | 45 | 47 | 43 | 48   |
| 8    | 44 | 41 | 41 | 40 | 42 | 42 | 40 | 46 | 54 | 57 | 59 | 60 | 61 | 61 | 61 | 62 | 62 | 61 | 58 | 53 | 51 | 52 | 51 | 51 | 52   |
| 9    | 49 | 48 | 48 | 45 | 46 | 49 | 47 | 52 | 56 | 58 | 60 | 61 | 64 | 65 | 65 | 65 | 64 | 63 | 61 | 56 | 56 | 55 | 52 | 53 | 56   |
| 10   | 52 | 52 | 50 | 49 | 47 | 46 | 48 | 53 | 56 | 58 | 59 | 61 | 62 | 62 | 63 | 63 | 63 | 62 | 59 | 54 | 52 | 48 | 47 | 47 | 55   |
| 11   | 46 | 45 | 43 | 41 | 40 | 36 | 37 | 39 | 39 | 37 | 39 | 44 | 50 | 49 | 48 | 48 | 47 | 42 | 36 | 37 | 37 | 37 | 37 | 36 | 41   |
| 12   | 35 | 33 | 32 | 31 | 31 | 31 | 31 | 31 | 31 | 33 | 34 | 36 | 37 | 38 | 39 | 40 | 40 | 40 | 40 | 38 | 36 | 34 | 33 | 33 | 35   |
| 13   | 32 | 31 | 30 | 30 | 29 | 29 | 29 | 29 | 32 | 35 | 38 | 40 | 43 | 41 | 43 | 44 | 44 | 44 | 43 | 41 | 39 | 38 | 38 | 35 | 37   |
| 14   | 36 | 35 | 35 | 35 | 35 | 36 | 36 | 42 | 47 | 52 | 54 | 54 | 56 | 56 | 57 | 56 | 55 | 53 | 47 | 41 | 38 | 34 | 31 | 29 | 44   |
| 15   | 29 | 29 | 28 | 28 | 28 | 28 | 27 | 26 | 26 | 28 | 30 | 31 | 31 | 31 | 33 | 35 | 35 | 35 | 35 | 35 | 35 | 34 | 34 | 34 | 31   |
| 16   | 31 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 37 | 39 | 42 | 45 | 47 | 49 | 50 | 50 | 49 | 46 | 44 | 43 | 41 | 39 | 40   |
| 17   | 38 | 36 | 37 | 35 | 36 | 36 | 37 | 40 | 47 | 52 | 54 | 57 | 59 | 61 | 61 | 61 | 58 | 56 | 56 | 53 | 50 | 48 | 46 | 44 | 48   |
| 18   | 41 | 39 | 37 | 35 | 35 | 34 | 35 | 37 | 42 | 46 | 51 | 56 | 59 | 60 | 60 | 60 | 59 | 45 | 39 | 36 | 34 | 32 | 32 | 31 | 43   |
| 19   | 30 | 30 | 29 | 29 | 28 | 28 | 28 | 28 | 29 | 30 | 30 | 30 | 29 | 29 | 28 | 29 | 29 | 29 | 30 | 30 | 29 | 28 | 28 | 28 | 29   |
| 20   | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 28 | 30 | 33 | 36 | 36 | 42 | 43 | 45 | 46 | 47 | 46 | 44 | 42 | 40 | 37 | 36 | 34 | 36   |
| 21   | 34 | 33 | 32 | 32 | 32 | 30 | 30 | 36 | 41 | 53 | 55 | 51 | 52 | 54 | 55 | 54 | 54 | 54 | 54 | 49 | 45 | 44 | 44 | 43 | 43   |
| 22   | 44 | 43 | 42 | 41 | 40 | 40 | 38 | 43 | 49 | 53 | 55 | 57 | 59 | 60 | 60 | 60 | 60 | 59 | 57 | 55 | 52 | 50 | 50 | 46 | 51   |
| 23   | 45 | 44 | 41 | 41 | 40 | 41 | 39 | 44 | 48 | 53 | 59 | 61 | 63 | 63 | 64 | 65 | 65 | 63 | 61 | 59 | 55 | 53 | 50 | 49 | 53   |
| 24   | 47 | 47 | 47 | 44 | 39 | 42 | 38 | 46 | 51 | 56 | 59 | 61 | 62 | 62 | 64 | 65 | 63 | 63 | 60 | 57 | 54 | 52 | 49 | 47 | 53   |
| 25   | 46 | 45 | 45 | 42 | 42 | 43 | 43 | 47 | 53 | 56 | 59 | 61 | 62 | 62 | 62 | 64 | 63 | 61 | 60 | 56 | 54 | 52 | 50 | 50 | 53   |
| 26   | 50 | 46 | 46 | 46 | 47 | 46 | 47 | 54 | 58 | 61 | 61 | 61 | 59 | 62 | 63 | 61 | 61 | 63 | 61 | 55 | 54 | 52 | 52 | 52 | 55   |
| 27   | 51 | 49 | 46 | 46 | 45 | 48 | 51 | 50 | 55 | 58 | 60 | 60 | 52 | 52 | 55 | 58 | 54 | 55 | 53 | 49 | 47 | 47 | 45 | 45 | 51   |
| 28   | 44 | 43 | 41 | 40 | 41 | 39 | 39 | 47 | 48 | 50 | 53 | 52 | 48 | 53 | 54 | 50 | 51 | 51 | 50 | 48 | 47 | 45 | 44 | 45 | 47   |
| 29   | 44 | 43 | 43 | 43 | 42 | 42 | 42 | 45 | 51 | 54 | 57 | 58 | 57 | 60 | 61 | 62 | 62 | 61 | 59 | 55 | 53 | 52 | 51 | 49 | 52   |
| 30   | 45 | 46 | 47 | 48 | 48 | 46 | 47 | 53 | 59 | 61 | 63 | 64 | 65 | 66 | 66 | 67 | 67 | 66 | 63 | 60 | 57 | 57 | 57 | 56 | 57   |
| MEAN | 38 | 37 | 36 | 36 | 35 | 35 | 35 | 38 | 41 | 44 | 46 | 48 | 49 | 50 | 51 | 51 | 51 | 50 | 48 | 45 | 43 | 42 | 41 | 41 | 40   |

TOTAL NUMBER OF OBSERVATIONS = 8539 MEAN = 43.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF TEMPERATURE AT 100 FEET (DEG F)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | HOUR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1    | 28   | 27 | 27 | 24 | 22 | 21 | 21 | 21 | 24 | 27 | 28 | 24 | 24 | 23 | 27 | 28 | 30 | 29 | 25 | 25 | 25 | 25 | 23 | 23 |
| 2    | 23   | 22 | 22 | 22 | 22 | 22 | 21 | 22 | 23 | 25 | 27 | 24 | 24 | 23 | 24 | 23 | 23 | 23 | 20 | 19 | 19 | 19 | 18 | 18 |
| 3    | 16   | 14 | 14 | 13 | 13 | 12 | 13 | 14 | 15 | 16 | 18 | 21 | 21 | 22 | 23 | 24 | 25 | 26 | 25 | 25 | 24 | 23 | 22 | 23 |
| 4    | 22   | 22 | 22 | 22 | 23 | 23 | 24 | 24 | 27 | 30 | 33 | 34 | 37 | 39 | 41 | 41 | 39 | 39 | 38 | 35 | 34 | 34 | 32 | 32 |
| 5    | 32   | 32 | 33 | 33 | 32 | 32 | 32 | 32 | 34 | 35 | 36 | 37 | 39 | 40 | 41 | 43 | 43 | 44 | 43 | 42 | 41 | 39 | 36 | 36 |
| 6    | 34   | 34 | 35 | 35 | 33 | 33 | 33 | 36 | 41 | 45 | 47 | 49 | 50 | 51 | 52 | 53 | 54 | 53 | 52 | 50 | 45 | 45 | 45 | 45 |
| 7    | 44   | 42 | 41 | 40 | 40 | 41 | 40 | 41 | 47 | 51 | 53 | 54 | 55 | 55 | 56 | 56 | 56 | 56 | 54 | 51 | 48 | 47 | 49 | 47 |
| 8    | 46   | 45 | 43 | 43 | 44 | 43 | 43 | 45 | 53 | 56 | 57 | 58 | 59 | 59 | 60 | 60 | 60 | 60 | 58 | 56 | 57 | 56 | 53 | 53 |
| 9    | 52   | 50 | 49 | 46 | 48 | 49 | 47 | 51 | 55 | 56 | 58 | 60 | 62 | 62 | 63 | 63 | 63 | 62 | 60 | 58 | 58 | 57 | 52 | 53 |
| 10   | 52   | 52 | 51 | 50 | 47 | 47 | 49 | 52 | 55 | 56 | 57 | 59 | 60 | 60 | 61 | 62 | 62 | 61 | 58 | 55 | 52 | 50 | 48 | 46 |
| 11   | 46   | 45 | 44 | 42 | 41 | 36 | 37 | 38 | 39 | 36 | 38 | 42 | 48 | 47 | 47 | 46 | 45 | 41 | 35 | 36 | 36 | 37 | 36 | 35 |
| 12   | 34   | 32 | 32 | 31 | 30 | 30 | 30 | 30 | 30 | 32 | 33 | 34 | 35 | 36 | 38 | 39 | 39 | 39 | 39 | 39 | 37 | 35 | 34 | 34 |
| 13   | 32   | 31 | 30 | 30 | 29 | 29 | 28 | 28 | 31 | 33 | 37 | 39 | 41 | 39 | 41 | 42 | 43 | 43 | 43 | 41 | 40 | 40 | 38 | 36 |
| 14   | 36   | 37 | 37 | 36 | 36 | 36 | 37 | 41 | 45 | 50 | 52 | 53 | 54 | 55 | 55 | 55 | 54 | 51 | 46 | 41 | 37 | 33 | 30 | 28 |
| 15   | 28   | 28 | 28 | 28 | 27 | 27 | 25 | 24 | 25 | 27 | 29 | 29 | 30 | 30 | 32 | 34 | 34 | 34 | 34 | 34 | 34 | 33 | 33 | 33 |
| 16   | 33   | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 36 | 38 | 41 | 43 | 46 | 47 | 48 | 49 | 48 | 47 | 44 | 43 | 42 | 40 |
| 17   | 34   | 38 | 38 | 37 | 37 | 37 | 37 | 39 | 46 | 51 | 53 | 55 | 57 | 59 | 60 | 60 | 57 | 56 | 55 | 53 | 50 | 47 | 45 | 43 |
| 18   | 41   | 39 | 37 | 36 | 35 | 35 | 35 | 36 | 40 | 44 | 49 | 55 | 57 | 58 | 58 | 58 | 57 | 44 | 38 | 35 | 33 | 31 | 30 | 30 |
| 19   | 29   | 29 | 28 | 28 | 27 | 27 | 27 | 27 | 27 | 29 | 28 | 29 | 28 | 27 | 27 | 28 | 28 | 28 | 29 | 29 | 29 | 28 | 27 | 27 |
| 20   | 27   | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 29 | 31 | 34 | 49 | 40 | 41 | 43 | 44 | 45 | 45 | 44 | 42 | 40 | 39 | 37 | 35 |
| 21   | 35   | 35 | 32 | 33 | 33 | 31 | 32 | 35 | 40 | 40 | 50 | 50 | 50 | 52 | 53 | 53 | 53 | 53 | 52 | 50 | 46 | 46 | 45 | 45 |
| 22   | 45   | 44 | 44 | 43 | 43 | 42 | 40 | 42 | 48 | 51 | 54 | 55 | 57 | 58 | 59 | 59 | 59 | 58 | 57 | 54 | 52 | 51 | 51 | 49 |
| 23   | 46   | 45 | 43 | 42 | 42 | 42 | 39 | 43 | 47 | 52 | 57 | 59 | 61 | 61 | 62 | 63 | 63 | 62 | 61 | 59 | 55 | 54 | 51 | 51 |
| 24   | 48   | 48 | 48 | 45 | 40 | 43 | 39 | 45 | 49 | 54 | 57 | 59 | 60 | 60 | 62 | 63 | 61 | 61 | 59 | 57 | 54 | 53 | 50 | 49 |
| 25   | 46   | 47 | 46 | 44 | 44 | 45 | 45 | 47 | 51 | 55 | 57 | 59 | 60 | 60 | 60 | 62 | 62 | 60 | 59 | 56 | 56 | 53 | 52 | 50 |
| 26   | 52   | 49 | 49 | 48 | 49 | 48 | 48 | 53 | 56 | 59 | 60 | 59 | 57 | 60 | 61 | 60 | 60 | 62 | 60 | 57 | 57 | 54 | 53 | 51 |
| 27   | 52   | 50 | 48 | 49 | 48 | 49 | 51 | 50 | 54 | 57 | 52 | 59 | 52 | 52 | 54 | 57 | 53 | 54 | 52 | 49 | 47 | 47 | 46 | 45 |
| 28   | 44   | 43 | 42 | 41 | 42 | 41 | 41 | 46 | 47 | 49 | 52 | 50 | 47 | 52 | 52 | 49 | 50 | 50 | 49 | 47 | 47 | 45 | 44 | 45 |
| 29   | 44   | 44 | 44 | 44 | 43 | 43 | 43 | 45 | 50 | 53 | 55 | 56 | 56 | 58 | 59 | 60 | 60 | 60 | 58 | 55 | 53 | 53 | 53 | 51 |
| 30   | 46   | 47 | 48 | 48 | 48 | 47 | 48 | 52 | 58 | 59 | 61 | 62 | 63 | 64 | 64 | 65 | 66 | 65 | 63 | 62 | 59 | 58 | 58 | 57 |
| MEAN | 38   | 38 | 37 | 36 | 36 | 36 | 35 | 37 | 40 | 43 | 45 | 47 | 47 | 48 | 49 | 50 | 50 | 49 | 47 | 45 | 44 | 42 | 41 | 40 |

TOTAL NUMBER OF OBSERVATIONS = 8539 MEAN = 43.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF TEMPERATURE AT 200 FEET(DEG F)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 27 | 26 | 26 | 23 | 21 | 20 | 19 | 19 | 21 | 24 | 26 | 23 | 22 | 21 | 25 | 27 | 28 | 27 | 23 | 23 | 23 | 22 | 22 | 22 | 22   |
| 2    | 21 | 21 | 21 | 21 | 20 | 21 | 20 | 21 | 21 | 22 | 25 | 21 | 21 | 24 | 21 | 20 | 20 | 21 | 21 | 17 | 17 | 17 | 16 | 16 | 16   |
| 3    | 15 | 14 | 13 | 12 | 12 | 12 | 11 | 12 | 13 | 14 | 15 | 19 | 20 | 20 | 21 | 21 | 22 | 23 | 23 | 23 | 22 | 22 | 21 | 22 | 22   |
| 4    | 22 | 22 | 22 | 22 | 22 | 23 | 23 | 24 | 25 | 29 | 31 | 33 | 35 | 37 | 38 | 38 | 37 | 37 | 37 | 33 | 33 | 33 | 31 | 30 | 30   |
| 5    | 32 | 32 | 33 | 33 | 32 | 32 | 32 | 31 | 33 | 34 | 35 | 36 | 38 | 40 | 41 | 42 | 42 | 43 | 43 | 42 | 41 | 40 | 37 | 37 | 37   |
| 6    | 36 | 36 | 36 | 36 | 33 | 34 | 34 | 36 | 40 | 43 | 45 | 47 | 49 | 50 | 51 | 52 | 52 | 52 | 51 | 50 | 45 | 44 | 45 | 45 | 45   |
| 7    | 45 | 44 | 42 | 41 | 40 | 42 | 41 | 40 | 46 | 50 | 52 | 53 | 54 | 55 | 55 | 55 | 55 | 55 | 54 | 51 | 48 | 48 | 48 | 47 | 47   |
| 8    | 46 | 46 | 44 | 45 | 44 | 43 | 43 | 46 | 50 | 54 | 55 | 57 | 58 | 58 | 59 | 60 | 60 | 59 | 58 | 56 | 55 | 55 | 54 | 54 | 54   |
| 9    | 51 | 50 | 49 | 45 | 47 | 48 | 47 | 50 | 54 | 56 | 57 | 59 | 61 | 61 | 62 | 62 | 62 | 62 | 60 | 58 | 58 | 57 | 53 | 53 | 53   |
| 10   | 53 | 52 | 50 | 49 | 47 | 49 | 48 | 50 | 53 | 55 | 56 | 58 | 59 | 60 | 60 | 60 | 61 | 60 | 58 | 56 | 53 | 51 | 47 | 45 | 45   |
| 11   | 45 | 44 | 43 | 42 | 42 | 37 | 36 | 37 | 37 | 34 | 36 | 41 | 47 | 47 | 47 | 46 | 45 | 40 | 34 | 35 | 35 | 36 | 35 | 33 | 33   |
| 12   | 33 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 30 | 31 | 32 | 32 | 33 | 34 | 36 | 37 | 37 | 38 | 38 | 37 | 36 | 34 | 33 | 31 | 31   |
| 13   | 32 | 30 | 30 | 29 | 29 | 28 | 28 | 27 | 30 | 33 | 36 | 39 | 41 | 39 | 41 | 41 | 41 | 42 | 41 | 40 | 40 | 40 | 38 | 37 | 37   |
| 14   | 38 | 38 | 38 | 36 | 36 | 35 | 36 | 40 | 44 | 49 | 51 | 52 | 53 | 53 | 54 | 54 | 53 | 51 | 45 | 39 | 35 | 31 | 29 | 27 | 27   |
| 15   | 28 | 28 | 27 | 26 | 25 | 25 | 24 | 23 | 24 | 25 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 32   |
| 16   | 30 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 36 | 37 | 40 | 41 | 44 | 46 | 47 | 47 | 47 | 46 | 44 | 43 | 42 | 41 | 41   |
| 17   | 40 | 38 | 38 | 39 | 38 | 38 | 39 | 40 | 44 | 49 | 52 | 54 | 56 | 58 | 59 | 59 | 57 | 56 | 55 | 53 | 49 | 46 | 44 | 42 | 42   |
| 18   | 40 | 38 | 36 | 34 | 34 | 34 | 34 | 35 | 39 | 43 | 48 | 54 | 57 | 57 | 57 | 57 | 59 | 44 | 38 | 34 | 32 | 30 | 29 | 29 | 29   |
| 19   | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 25 | 26 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 27 | 27 | 28 | 28 | 29 | 28 | 27 | 26 | 26   |
| 20   | 26 | 26 | 27 | 26 | 26 | 25 | 26 | 26 | 27 | 30 | 33 | 47 | 39 | 41 | 42 | 43 | 43 | 43 | 42 | 41 | 39 | 38 | 36 | 34 | 34   |
| 21   | 35 | 35 | 33 | 34 | 34 | 33 | 32 | 34 | 38 | 50 | 52 | 54 | 56 | 51 | 52 | 52 | 52 | 52 | 52 | 49 | 45 | 45 | 45 | 44 | 44   |
| 22   | 45 | 45 | 45 | 44 | 43 | 43 | 42 | 42 | 48 | 50 | 52 | 54 | 56 | 57 | 58 | 58 | 58 | 58 | 56 | 54 | 52 | 51 | 50 | 49 | 49   |
| 23   | 48 | 48 | 44 | 43 | 42 | 42 | 40 | 42 | 45 | 51 | 55 | 58 | 60 | 61 | 62 | 63 | 62 | 61 | 60 | 58 | 55 | 53 | 51 | 50 | 50   |
| 24   | 48 | 48 | 47 | 46 | 40 | 42 | 39 | 44 | 48 | 53 | 56 | 59 | 59 | 60 | 61 | 62 | 61 | 60 | 59 | 57 | 54 | 53 | 50 | 49 | 49   |
| 25   | 46 | 46 | 46 | 45 | 44 | 46 | 46 | 47 | 51 | 54 | 56 | 58 | 59 | 60 | 58 | 61 | 60 | 59 | 58 | 56 | 56 | 53 | 52 | 51 | 51   |
| 26   | 51 | 49 | 49 | 48 | 49 | 48 | 49 | 51 | 55 | 57 | 58 | 58 | 56 | 59 | 59 | 58 | 59 | 61 | 60 | 57 | 58 | 55 | 53 | 51 | 51   |
| 27   | 52 | 51 | 48 | 49 | 49 | 49 | 50 | 50 | 53 | 56 | 50 | 58 | 52 | 51 | 54 | 55 | 52 | 52 | 51 | 48 | 47 | 47 | 45 | 44 | 44   |
| 28   | 43 | 42 | 41 | 41 | 41 | 41 | 42 | 45 | 46 | 48 | 50 | 49 | 46 | 51 | 51 | 48 | 49 | 49 | 48 | 46 | 46 | 44 | 44 | 45 | 45   |
| 29   | 44 | 44 | 44 | 43 | 43 | 43 | 43 | 44 | 49 | 52 | 54 | 56 | 55 | 57 | 57 | 58 | 59 | 59 | 57 | 55 | 54 | 54 | 54 | 52 | 52   |
| 30   | 49 | 47 | 48 | 48 | 47 | 46 | 48 | 50 | 56 | 58 | 59 | 61 | 62 | 63 | 63 | 65 | 64 | 63 | 62 | 61 | 59 | 58 | 59 | 58 | 58   |
| MEAN | 38 | 38 | 37 | 36 | 36 | 35 | 35 | 36 | 39 | 42 | 43 | 46 | 46 | 47 | 48 | 48 | 49 | 48 | 46 | 45 | 43 | 42 | 41 | 41 | 40   |

TOTAL NUMBER OF OBSERVATIONS = 8539 MEAN = 42.

: INDICATES CALIBRATION DURING THE HOUR

HOURLY TOTAL SOLAR RADIATION(LANGLEY)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

HOUR

DAY

| DAY | 1 | 2 | 3 | 4 | 5 | 6 | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | TOTAL |
|-----|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------|
| 1   | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 6  | 16 | 32 | 47 | 16 | 12 | 16 | 36 | 26 | 24 | 7  | 0  | 0  | 0  | 0  | 0  | 0  | 239   |
| 2   | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 6  | 10 | 23 | 48 | 21 | 19 | 23 | 17 | 11 | 14 | 5  | 0  | 0  | 0  | 0  | 0  | 0  | 198   |
| 3   | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 26 | 39 | 25 | 40 | 45 | 66 | 67 | 46 | 33 | 33 | 15 | 3  | 0  | 0  | 0  | 0  | 0  | 440   |
| 4   | 0 | 0 | 0 | 0 | 0 | 0 | 5  | 9  | 23 | 53 | 59 | 70 | 75 | 48 | 62 | 23 | 16 | 8  | 0  | 0  | 0  | 0  | 0  | 0  | 451   |
| 5   | 0 | 0 | 0 | 0 | 0 | 0 | 2  | 10 | 20 | 23 | 29 | 39 | 50 | 38 | 25 | 39 | 23 | 15 | 1  | 0  | 0  | 0  | 0  | 0  | 314   |
| 6   | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 24 | 41 | 56 | 67 | 74 | 75 | 72 | 63 | 49 | 32 | 15 | 2  | 0  | 0  | 0  | 0  | 0  | 577   |
| 7   | 0 | 0 | 0 | 0 | 0 | 0 | 7  | 24 | 41 | 55 | 68 | 65 | 68 | 50 | 31 | 23 | 26 | 18 | 1  | 0  | 0  | 0  | 0  | 0  | 477   |
| 8   | 0 | 0 | 0 | 0 | 0 | 0 | 8  | 24 | 41 | 56 | 67 | 75 | 76 | 70 | 63 | 50 | 34 | 16 | 2  | 0  | 0  | 0  | 0  | 0  | 582   |
| 9   | 0 | 0 | 0 | 0 | 0 | 0 | 8  | 26 | 43 | 58 | 69 | 76 | 78 | 73 | 63 | 50 | 34 | 16 | 1  | 0  | 0  | 0  | 0  | 0  | 595   |
| 10  | 0 | 0 | 0 | 0 | 0 | 0 | 9  | 26 | 43 | 58 | 69 | 75 | 77 | 71 | 62 | 49 | 38 | 19 | 2  | 0  | 0  | 0  | 0  | 0  | 598   |
| 11  | 0 | 0 | 0 | 0 | 0 | 0 | 8  | 8  | 3  | 17 | 25 | 60 | 72 | 38 | 41 | 38 | 16 | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 327   |
| 12  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 3  | 8  | 17 | 15 | 23 | 21 | 15 | 25 | 19 | 14 | 5  | 1  | 0  | 0  | 0  | 0  | 0  | 167   |
| 13  | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 4  | 5  | 27 | 39 | 47 | 60 | 59 | 64 | 37 | 17 | 11 | 1  | 0  | 0  | 0  | 0  | 0  | 371   |
| 14  | 0 | 0 | 0 | 0 | 0 | 0 | 9  | 27 | 44 | 57 | 69 | 76 | 81 | 65 | 63 | 45 | 22 | 9  | 2  | 0  | 0  | 0  | 0  | 0  | 569   |
| 15  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 6  | 9  | 13 | 13 | 10 | 12 | 14 | 11 | 10 | 5  | 5  | 1  | 0  | 0  | 0  | 0  | 0  | 110   |
| 16  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 3  | 7  | 21 | 23 | 46 | 67 | 70 | 64 | 51 | 36 | 19 | 3  | 0  | 0  | 0  | 0  | 0  | 411   |
| 17  | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 27 | 43 | 58 | 69 | 76 | 78 | 72 | 61 | 17 | 8  | 12 | 3  | 0  | 0  | 0  | 0  | 0  | 534   |
| 18  | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 27 | 43 | 57 | 66 | 70 | 48 | 56 | 40 | 29 | 25 | 7  | 2  | 0  | 0  | 0  | 0  | 0  | 481   |
| 19  | 0 | 0 | 0 | 0 | 0 | 0 | 1  | 3  | 7  | 12 | 12 | 9  | 10 | 9  | 9  | 8  | 4  | 5  | 1  | 0  | 0  | 0  | 0  | 0  | 90    |
| 20  | 0 | 0 | 0 | 0 | 0 | 0 | 3  | 15 | 57 | 40 | 53 | 28 | 61 | 48 | 65 | 42 | 36 | 18 | 3  | 0  | 0  | 0  | 0  | 0  | 469   |
| 21  | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 30 | 42 | 25 | 13 | 72 | 79 | 76 | 52 | 18 | 14 | 9  | 5  | 0  | 0  | 0  | 0  | 0  | 448   |
| 22  | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 29 | 46 | 60 | 54 | 78 | 79 | 75 | 63 | 48 | 32 | 13 | 3  | 0  | 0  | 0  | 0  | 0  | 593   |
| 23  | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 30 | 46 | 61 | 72 | 80 | 80 | 73 | 69 | 59 | 45 | 22 | 2  | 0  | 0  | 0  | 0  | 0  | 652   |
| 24  | 0 | 0 | 0 | 0 | 0 | 1 | 13 | 29 | 46 | 60 | 71 | 79 | 68 | 47 | 67 | 58 | 32 | 23 | 4  | 0  | 0  | 0  | 0  | 0  | 598   |
| 25  | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 27 | 41 | 60 | 71 | 79 | 75 | 41 | 32 | 31 | 26 | 9  | 2  | 0  | 0  | 0  | 0  | 0  | 507   |
| 26  | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 31 | 38 | 46 | 35 | 35 | 46 | 58 | 49 | 13 | 33 | 19 | 3  | 0  | 0  | 0  | 0  | 0  | 419   |
| 27  | 0 | 0 | 0 | 0 | 0 | 1 | 6  | 13 | 17 | 22 | 6  | 21 | 3  | 34 | 32 | 16 | 18 | 14 | 2  | 0  | 0  | 0  | 0  | 0  | 205   |
| 28  | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 12 | 12 | 37 | 26 | 16 | 27 | 67 | 38 | 22 | 21 | 17 | 4  | 0  | 0  | 0  | 0  | 0  | 312   |
| 29  | 0 | 0 | 0 | 0 | 0 | 0 | 6  | 23 | 38 | 56 | 76 | 66 | 51 | 77 | 50 | 54 | 30 | 10 | 4  | 0  | 0  | 0  | 0  | 0  | 541   |
| 30  | 0 | 0 | 0 | 0 | 0 | 1 | 14 | 29 | 47 | 41 | 69 | 81 | 83 | 61 | 51 | 55 | 39 | 20 | 4  | 0  | 0  | 0  | 0  | 0  | 595   |

TOTAL/10 0 0 0 0 0 0 0 20 55 91 122 144 160 169 158 141 102 74 38 6 0 0 0 0 0

TOTAL NUMBER OF OBSERVATIONS = 8555 TOTAL = 12670.

: INDICATES CALIBRATION DURING THE HOUR



TEMPERATURE CHANGE FROM 30' TO 100' (DEG F\*10)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|------|
| 1    | 2  | 0  | 0  | -2 | -5 | -4 | -4 | -5 | -6  | -10 | -10 | -6  | -7  | -6  | -7  | -8  | -8  | -7  | -2 | -1 | 0  | 0  | 0  | -3 | -5   |
| 2    | -2 | -1 | 0  | 0  | 0  | 0  | -3 | -4 | -5  | -7  | -10 | -8  | -6  | -7  | -6  | -6  | -6  | -4  | -4 | -3 | -3 | -1 | -1 | 0  | -5   |
| 3    | -1 | -2 | -3 | -2 | -2 | 0  | 0  | -4 | -7  | -11 | -10 | -9  | -11 | -11 | -9  | -8  | -8  | -5  | -1 | 0  | 13 | 0  | 0  | 13 | -4   |
| 4    | 9  | 12 | 4  | 1  | 1  | 3  | 6  | 2  | -5  | -10 | -12 | -13 | -11 | -9  | -11 | -9  | -8  | -6  | -5 | -2 | -2 | 0  | 0  | 1  | -3   |
| 5    | 2  | 0  | 0  | 2  | 2  | 0  | 0  | -2 | -6  | -8  | -7  | -8  | -9  | -10 | -9  | -10 | -9  | -8  | -6 | 0  | 10 | 18 | 5  | 20 | -1   |
| 6    | 13 | 10 | 8  | 26 | 19 | 8  | 9  | 0  | -7  | -10 | -12 | -13 | -15 | -16 | -15 | -14 | -13 | -9  | 0  | 27 | 19 | 7  | 16 | 13 | 1    |
| 7    | 25 | 19 | 30 | 16 | 8  | 11 | 15 | -4 | -8  | -9  | -13 | -16 | -15 | -14 | -12 | -10 | -11 | -11 | -1 | 10 | 12 | 21 | 16 | 31 | 3    |
| 8    | 21 | 32 | 20 | 27 | 21 | 17 | 26 | 0  | -11 | -13 | -16 | -18 | -18 | -18 | -17 | -16 | -14 | -9  | -1 | 30 | 40 | 40 | 22 | 19 | 6    |
| 9    | 22 | 16 | 12 | 10 | 15 | 0  | 0  | -8 | -12 | -15 | -19 | -20 | -23 | -22 | -20 | -18 | -14 | -10 | -2 | 11 | 20 | 11 | 10 | 4  | -2   |
| 10   | 8  | 3  | 9  | 11 | 5  | 15 | 2  | -7 | -12 | -16 | -17 | -20 | -20 | -19 | -19 | -15 | -14 | -11 | -3 | 7  | 11 | 20 | 6  | 0  | -3   |
| 11   | 0  | 2  | 13 | 19 | 20 | 4  | 0  | -6 | -6  | -7  | -6  | -8  | -7  | -8  | -8  | -8  | -7  | -8  | -2 | 0  | 0  | 2  | 0  | 3  | 0    |
| 12   | -4 | -5 | -2 | -3 | -2 | -2 | 0  | -2 | -5  | -7  | -9  | -9  | -11 | -11 | -12 | -10 | -7  | -7  | -4 | 5  | 11 | 6  | 4  | 6  | -5   |
| 13   | 6  | 1  | 2  | 0  | 0  | 4  | 0  | -6 | -6  | -9  | -9  | -9  | -11 | -11 | -12 | -10 | -8  | -7  | -3 | 7  | 15 | 18 | 8  | 15 | 0    |
| 14   | 10 | 22 | 14 | 12 | 11 | 3  | 3  | -5 | -9  | -12 | -15 | -16 | -19 | -16 | -16 | -13 | -10 | -8  | -6 | -3 | -1 | 0  | 0  | 0  | -6   |
| 15   | 0  | 0  | -2 | -3 | -4 | -4 | -5 | -6 | -6  | -6  | -6  | -5  | -6  | -5  | -7  | -7  | -6  | -7  | -5 | -5 | -5 | -5 | -5 | -6 | 17   |
| 16   | -4 | -5 | -5 | -5 | -5 | -6 | -6 | -6 | -7  | -7  | -8  | -10 | -11 | -13 | -12 | -11 | -10 | -9  | -7 | 0  | 2  | 7  | 15 | 17 | -3   |
| 17   | 12 | 14 | 12 | 24 | 5  | 6  | 9  | -3 | -6  | -10 | -12 | -12 | -13 | -14 | -13 | -11 | -8  | -5  | -3 | 6  | 6  | -3 | -2 | 3  | 6    |
| 18   | 0  | 5  | 3  | 4  | 9  | 13 | 5  | -5 | -9  | -9  | -12 | -14 | -16 | -16 | -15 | -12 | -12 | -10 | -8 | -7 | -7 | -6 | -6 | -6 | -5   |
| 19   | -6 | -6 | -6 | -5 | -5 | -4 | -5 | -7 | -8  | -7  | -8  | -7  | -6  | -5  | -5  | -5  | -5  | -6  | -2 | -1 | 2  | 0  | 0  | 3  | -3   |
| 20   | -1 | 0  | 3  | 2  | 0  | -1 | 0  | -3 | -8  | -9  | -10 | -10 | -12 | -12 | -13 | -11 | -11 | -8  | -2 | 1  | 2  | 18 | 16 | 12 | 12   |
| 21   | 8  | 20 | 7  | 17 | 9  | 16 | 23 | -2 | -7  | -10 | -13 | -14 | -13 | -15 | -15 | -11 | -9  | -7  | -7 | 7  | 12 | 13 | 10 | 19 | 0    |
| 22   | 7  | 12 | 21 | 24 | 27 | 21 | 16 | -5 | -8  | -10 | -13 | -15 | -16 | -15 | -15 | -14 | -11 | -9  | -3 | -1 | 3  | 7  | 7  | 24 | 15   |
| 23   | 15 | 11 | 20 | 8  | 14 | 14 | 7  | -8 | -11 | -12 | -15 | -17 | -17 | -15 | -14 | -15 | -15 | -11 | -7 | -5 | 0  | 5  | 15 | 15 | -2   |
| 24   | 9  | 9  | 7  | 10 | 11 | 5  | 7  | -7 | -9  | -12 | -15 | -16 | -15 | -13 | -17 | -16 | -12 | -11 | -4 | -3 | 5  | 8  | 8  | 14 | 10   |
| 25   | 9  | 11 | 18 | 23 | 18 | 24 | 21 | -1 | -11 | -13 | -14 | -16 | -15 | -15 | -14 | -15 | -12 | -8  | -4 | 0  | 21 | 14 | 17 | 10 | 0    |
| 26   | 15 | 23 | 27 | 27 | 18 | 23 | 16 | -6 | -13 | -13 | -12 | -14 | -16 | -16 | -15 | -10 | -11 | -10 | -5 | 18 | 23 | 16 | 10 | 3  | 1    |
| 27   | 14 | 13 | 19 | 20 | 27 | 13 | 0  | 0  | -10 | -12 | -12 | -12 | -14 | -16 | -15 | -10 | -9  | -8  | -4 | 0  | 2  | 3  | 1  | 3  | 2    |
| 28   | 0  | 6  | 10 | 6  | 10 | 16 | 11 | -4 | -8  | -10 | -12 | -13 | -7  | -14 | -14 | -11 | -11 | -10 | -7 | -4 | -3 | -1 | 3  | 2  | 1    |
| 29   | 2  | 7  | 6  | 6  | 11 | 5  | 14 | 0  | -10 | -11 | -17 | -18 | -16 | -15 | -16 | -17 | -13 | -9  | -5 | 0  | 4  | 12 | 16 | 14 | 1    |
| 30   | 6  | 13 | 11 | 8  | 7  | 13 | 6  | -8 | -12 | -14 | -18 | -19 | -19 | -18 | -15 | -18 | -15 | -12 | -4 | 15 | 17 | 12 | 10 | 12 | 8    |
| MEAN | 6  | 6  | 8  | 8  | 9  | 7  | 5  | -5 | -9  | -11 | -13 | -14 | -14 | -14 | -14 | -13 | -11 | -9  | -5 | 3  | 7  | 7  | 6  | 8  |      |

TOTAL NUMBER OF OBSERVATIONS = 8527 MEAN = -2.

: INDICATES CALIBRATION DURING THE HOUR

TEMPERATURE CHANGE FROM 30' TO 200' (DEG F\*10)  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | -6   | -8  | -11 | -15 | -18 | -21 | -21 | -22 | -19 | -26 | -26 | -18 | -20 | -22 | -23 | -24 | -24 | -21 | -10 | -13 | -13 | -13 | -13 | -17 |
| 2    | -14  | -14 | -6  | -8  | -12 | -9  | -18 | -20 | -22 | -23 | -24 | -23 | -21 | -22 | -23 | -22 | -22 | -20 | -21 | -18 | -21 | -19 | -16 | -11 |
| 3    | -15  | -15 | -20 | -16 | -19 | -8  | -12 | -18 | -23 | -25 | -39 | -30 | -27 | -30 | -28 | -27 | -27 | -23 | -16 | -12 | 2   | -10 | -7  | 3   |
| 4    | 0    | 2   | -3  | -7  | -9  | -4  | 1   | 0   | -20 | -25 | -27 | -30 | -27 | -25 | -26 | -23 | -22 | -19 | -17 | -9  | -12 | -7  | -5  | -4  |
| 5    | -3   | -7  | -8  | -4  | 0   | -4  | -8  | -14 | -21 | -23 | -22 | -23 | -23 | -24 | -22 | -24 | -22 | -20 | -18 | -4  | 5   | 23  | 11  | 20  |
| 6    | 24   | 23  | 17  | 27  | 13  | 11  | 8   | -2  | -19 | -24 | -25 | -26 | -28 | -28 | -28 | -25 | -24 | -20 | -7  | 26  | 16  | 6   | 19  | 16  |
| 7    | 32   | 26  | 35  | 10  | 5   | 18  | 26  | 5   | -21 | -22 | -25 | -27 | -26 | -24 | -23 | -20 | -22 | -21 | -9  | 8   | 12  | 30  | 13  | 38  |
| 8    | 32   | 44  | 34  | 43  | 28  | 18  | 30  | 4   | -24 | -25 | -23 | -26 | -27 | -28 | -26 | -23 | -22 | -18 | -8  | 28  | 48  | 38  | 34  | 28  |
| 9    | 23   | 17  | 8   | 11  | 14  | 0   | 0   | -19 | -22 | -24 | -29 | -22 | -25 | -28 | -20 | -23 | -20 | -17 | -8  | 14  | 19  | 15  | 12  | 0   |
| 10   | 11   | 2   | 6   | 8   | 5   | 27  | 0   | -16 | -21 | -15 | -21 | -20 | -18 | -18 | -18 | -22 | -21 | -19 | -9  | 15  | 13  | 23  | 2   | -7  |
| 11   | -8   | -4  | 4   | 15  | 16  | 2   | -7  | -19 | -17 | -16 | -21 | -24 | -28 | -7  | -10 | -8  | -12 | -17 | -15 | -7  | -4  | -1  | -8  | -17 |
| 12   | -17  | -22 | -15 | -16 | -13 | -12 | -10 | -13 | -17 | -22 | -22 | -23 | -22 | -22 | -23 | -22 | -21 | -20 | -17 | -3  | 4   | 0   | 0   | -2  |
| 13   | 1    | -7  | -4  | -10 | -9  | -4  | -7  | -17 | -18 | -20 | -22 | -18 | -8  | -6  | -15 | -19 | -21 | -20 | -14 | 0   | 17  | 23  | 10  | 26  |
| 14   | 21   | 27  | 19  | 10  | 9   | 2   | 3   | -18 | -24 | -24 | -20 | -22 | -30 | -22 | -14 | -16 | -16 | -13 | -11 | -15 | -14 | -10 | -4  | -11 |
| 15   | -4   | -9  | -14 | -17 | -20 | -21 | -22 | -22 | -22 | -24 | -23 | -19 | -19 | -17 | -21 | -21 | -21 | -21 | -19 | -18 | -17 | -18 | -18 | -19 |
| 16   | -18  | -17 | -17 | -17 | -16 | -19 | -19 | -19 | -22 | -21 | -22 | -24 | -26 | -27 | -27 | -25 | -23 | -20 | -18 | -7  | 0   | 1   | 16  | 28  |
| 17   | 23   | 23  | 20  | 35  | 9   | 6   | 15  | 5   | -19 | -23 | -25 | -25 | -26 | -26 | -24 | -20 | -14 | -11 | -9  | 2   | 0   | -14 | -13 | -13 |
| 18   | -6   | 0   | 0   | 0   | 1   | 6   | 1   | -16 | -23 | -23 | -25 | -22 | -20 | -22 | -15 | -17 | -11 | -19 | -17 | -20 | -21 | -21 | -22 | -22 |
| 19   | -22  | -22 | -22 | -21 | -20 | -19 | -18 | -23 | -27 | -23 | -24 | -23 | -22 | -21 | -20 | -20 | -19 | -19 | -15 | -13 | -5  | -3  | -6  | -15 |
| 20   | -12  | -10 | -4  | -6  | -9  | -11 | -9  | -16 | -22 | -25 | -26 | -28 | -28 | -28 | -29 | -25 | -25 | -21 | -12 | -2  | -2  | 12  | 11  | 12  |
| 21   | 5    | 20  | 8   | 17  | 16  | 27  | 28  | -7  | -20 | -22 | -26 | -28 | -26 | -27 | -28 | -21 | -20 | -17 | -16 | 11  | 14  | 9   | 6   | 15  |
| 22   | 2    | 13  | 20  | 28  | 23  | 26  | 30  | -12 | -21 | -22 | -26 | -27 | -28 | -27 | -27 | -25 | -22 | -19 | -10 | -6  | 0   | 2   | 2   | 23  |
| 23   | 32   | 36  | 30  | 17  | 16  | 14  | 11  | -15 | -23 | -24 | -27 | -28 | -30 | -27 | -26 | -25 | -26 | -22 | -16 | -12 | -5  | 0   | 12  | 12  |
| 24   | 8    | 13  | 3   | 17  | 11  | 2   | 9   | -17 | -21 | -24 | -27 | -28 | -28 | -25 | -27 | -29 | -23 | -22 | -12 | -8  | 3   | 5   | 4   | 9   |
| 25   | 10   | 7   | 18  | 32  | 16  | 29  | 31  | -2  | -20 | -25 | -26 | -29 | -27 | -24 | -24 | -24 | -22 | -17 | -12 | -2  | 21  | 15  | 24  | 15  |
| 26   | 13   | 29  | 27  | 27  | 13  | 22  | 18  | -13 | -25 | -23 | -22 | -20 | -27 | -24 | -28 | -16 | -20 | -20 | -11 | 21  | 36  | 25  | 12  | -2  |
| 27   | 17   | 23  | 21  | 22  | 32  | 13  | -7  | -6  | -22 | -22 | -22 | -22 | -4  | -12 | -21 | -19 | -14 | -19 | -11 | 3   | 0   | 1   | -1  | -1  |
| 28   | -5   | 0   | 5   | 5   | 8   | 22  | 24  | -14 | -20 | -22 | -23 | -20 | -16 | -23 | -20 | -22 | -23 | -22 | -17 | -13 | -12 | -7  | 0   | -1  |
| 29   | 0    | 4   | 4   | 1   | 6   | 5   | 13  | -7  | -22 | -24 | -28 | -28 | -23 | -28 | -26 | -26 | -22 | -18 | -12 | -1  | 6   | 17  | 29  | 23  |
| 30   | 9    | 18  | 23  | 14  | 5   | 13  | 9   | -16 | -24 | -23 | -28 | -30 | -30 | -30 | -24 | -23 | -23 | -19 | -9  | 16  | 22  | 16  | 21  | 19  |
| MEAN | 4    | 6   | 5   | 6   | 3   | 3   | 2   | -13 | -22 | -24 | -26 | -25 | -25 | -24 | -24 | -23 | -22 | -20 | -14 | -2  | 3   | 4   | 3   | 4   |

TOTAL NUMBER OF OBSERVATIONS = 8533 MEAN = -9.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF BAROMETRIC PRESSURE  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|      | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
| 1    | 780  | 780 | 780 | 779 | 779 | 779 | 778 | 777 | 777 | 776 | 776 | 776 | 776 | 776 | 775 | 776 | 775 | 776 | 776 | 776 | 777 | 777 | 777 | 777 | 777  |
| 2    | 777  | 776 | 776 | 776 | 776 | 776 | 776 | 777 | 777 | 777 | 777 | 777 | 778 | 778 | 778 | 779 | 779 | 779 | 780 | 781 | 782 | 783 | 783 | 783 | 783  |
| 3    | 783  | 783 | 783 | 783 | 783 | 784 | 784 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 786 | 787 | 788 | 789 | 789 | 789 | 789  |
| 4    | 789  | 789 | 789 | 789 | 789 | 789 | 789 | 790 | 790 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 791  |
| 5    | 792  | 792 | 792 | 792 | 792 | 792 | 793 | 793 | 794 | 794 | 795 | 795 | 795 | 795 | 794 | 794 | 794 | 794 | 795 | 795 | 795 | 795 | 795 | 795 | 795  |
| 6    | 796  | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 796  |
| 7    | 796  | 796 | 796 | 796 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 796 | 796 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 796  |
| 8    | 796  | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 795 | 794 | 793 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 792 | 791 | 791  |
| 9    | 791  | 791 | 790 | 790 | 790 | 790 | 790 | 789 | 789 | 790 | 789 | 789 | 788 | 787 | 787 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786  |
| 10   | 786  | 786 | 787 | 787 | 787 | 787 | 788 | 788 | 788 | 788 | 787 | 787 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785  |
| 11   | 786  | 785 | 785 | 785 | 786 | 786 | 786 | 786 | 787 | 787 | 787 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785  |
| 12   | 789  | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789  |
| 13   | 791  | 791 | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 792 | 792 | 793 | 792 | 792 | 792 | 792 | 792 | 792 | 791 | 792 | 792 | 792 | 792 | 792 | 791  |
| 14   | 783  | 783 | 783 | 782 | 783 | 782 | 782 | 782 | 788 | 788 | 787 | 786 | 786 | 786 | 785 | 785 | 785 | 785 | 784 | 784 | 785 | 785 | 785 | 784 | 784  |
| 15   | 785  | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 787 | 787 | 787 | 787 | 787 | 786 | 786 | 786 | 787 | 788 | 788 | 788 | 788 | 788 | 788 | 788  |
| 16   | 789  | 789 | 789 | 789 | 789 | 789 | 789 | 790 | 791 | 791 | 791 | 791 | 790 | 790 | 789 | 789 | 789 | 789 | 789 | 789 | 790 | 790 | 790 | 789 | 789  |
| 17   | 789  | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 788 | 788 | 787 | 786 | 786 | 785 | 785 | 785 | 785 | 786 | 786 | 787 | 788 | 788 | 788  |
| 18   | 788  | 788 | 788 | 787 | 787 | 787 | 787 | 787 | 786 | 786 | 785 | 784 | 783 | 782 | 782 | 781 | 781 | 782 | 784 | 785 | 785 | 785 | 785 | 785 | 786  |
| 19   | 786  | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786  |
| 20   | 786  | 786 | 786 | 786 | 786 | 786 | 786 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 786 | 786 | 786 | 786 | 787 | 787 | 788 | 788 | 789 | 789 | 789  |
| 21   | 790  | 790 | 790 | 791 | 791 | 791 | 792 | 793 | 793 | 793 | 793 | 793 | 793 | 793 | 792 | 792 | 792 | 792 | 792 | 792 | 793 | 793 | 793 | 793 | 793  |
| 22   | 794  | 794 | 794 | 794 | 794 | 795 | 795 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 796 | 795 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796  |
| 23   | 796  | 796 | 796 | 797 | 797 | 797 | 797 | 798 | 798 | 798 | 798 | 797 | 797 | 797 | 796 | 795 | 795 | 795 | 795 | 795 | 796 | 796 | 796 | 796 | 796  |
| 24   | 797  | 797 | 798 | 798 | 798 | 798 | 798 | 797 | 798 | 797 | 797 | 796 | 796 | 795 | 794 | 794 | 794 | 794 | 793 | 794 | 794 | 794 | 794 | 794 | 794  |
| 25   | 794  | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 793 | 793 | 792 | 792 | 791 | 791 | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790  |
| 26   | 790  | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 791 | 790 | 790 | 789 | 789 | 789 | 788 | 788 | 788 | 787 | 787 | 787 | 788 | 788 | 788 | 788 | 788  |
| 27   | 788  | 788 | 788 | 788 | 788 | 788 | 789 | 789 | 789 | 790 | 790 | 789 | 789 | 789 | 788 | 788 | 788 | 788 | 788 | 788 | 789 | 789 | 789 | 789 | 789  |
| 28   | 790  | 790 | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 791 | 791 | 791 | 791 | 791 | 790 | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 791 | 791 | 791  |
| 29   | 791  | 791 | 791 | 791 | 791 | 791 | 791 | 792 | 792 | 792 | 792 | 792 | 791 | 791 | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 791 | 791  |
| 30   | 790  | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 790 | 790 | 789 | 789 | 789 | 789 | 788 | 787 | 787 | 786 | 786 | 786 | 787 | 787 | 787 | 787 | 787  |
| MEAN | 789  | 789 | 789 | 789 | 789 | 789 | 789 | 790 | 790 | 789 | 789 | 789 | 789 | 789 | 788 | 788 | 788 | 788 | 788 | 788 | 789 | 789 | 789 | 789 | 789  |

TOTAL NUMBER OF OBSERVATIONS = 8533 MEAN = 789.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF BI-VANE WIND SPEED AT 200 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 4  | 3  | 5  | 4  | 5  | 4  | 9  | 5  | 3  | 6  | 12 | 11 | 15 | 11 | 7  | 11 | 11 | 13 | 20 | 13 | 4  | 7  | 9  | 8  | 8    |
| 2    | 4  | 5  | 12 | 10 | 4  | 8  | 12 | 7  | 10 | 9  | 8  | 10 | 6  | 9  | 10 | 9  | 8  | 10 | 11 | 7  | 4  | 3  | 7  | 6  | 6    |
| 3    | 1  | 4  | 3  | 2  | 5  | 7  | 6  | 5  | 6  | 9  | 13 | 16 | 20 | 18 | 16 | 17 | 14 | 12 | 8  | 3  | 1  | 5  | 6  | 4  | 8    |
| 4    | 2  | 2  | 4  | 3  | 3  | 1  | 1  | 2  | 0  | 3  | 4  | 3  | 11 | 9  | 10 | 9  | 5  | 5  | 11 | 7  | 6  | 6  | 4  | 2  | 5    |
| 5    | 2  | 4  | 4  | 2  | 1  | 1  | 2  | 2  | 2  | 8  | 3  | 6  | 4  | 4  | 5  | 9  | 7  | 4  | 0  | 2  | 6  | 8  | 1  | 0  | 3    |
| 6    | 1  | 3  | 3  | 3  | 2  | 1  | 5  | 4  | 3  | 3  | 3  | 9  | 7  | 8  | 8  | 4  | 7  | 8  | 8  | 10 | 6  | 5  | 6  | 7  | 3    |
| 7    | 2  | 2  | 3  | 2  | 1  | 2  | 2  | 5  | 3  | 2  | 5  | 9  | 9  | 10 | 7  | 4  | 6  | 7  | 6  | 5  | 4  | 4  | 3  | 4  | 4    |
| 8    | 2  | 3  | 1  | 0  | 3  | 5  | 6  | 7  | 9  | 13 | 17 | 16 | 15 | 13 | 16 | 16 | 17 | 14 | 10 | 12 | 12 | 13 | 22 | 4  | 11   |
| 9    | 16 | 12 | 10 | 7  | 13 | 13 | 16 | 15 | 14 | 13 | 25 | 28 | 29 | 26 | 26 | 26 | 22 | 20 | 13 | 13 | 13 | 19 | 9  | 22 | 17   |
| 10   | 8  | 8  | 5  | 8  | 9  | 13 | 9  | 13 | 19 | 21 | 21 | 20 | 23 | 23 | 19 | 15 | 15 | 14 | 11 | 8  | 2  | 4  | 8  | 9  | 13   |
| 11   | 5  | 3  | 1  | 1  | 6  | 9  | 3  | 5  | 10 | 7  | 7  | 5  | 14 | 21 | 21 | 21 | 20 | 24 | 17 | 9  | 9  | 10 | 11 | 11 | 10   |
| 12   | 9  | 12 | 5  | 4  | 6  | 6  | 4  | 5  | 7  | 6  | 8  | 8  | 6  | 4  | 6  | 5  | 10 | 1  | 5  | 0  | 3  | 5  | 2  | 2  | 5    |
| 13   | 4  | 1  | 2  | 3  | 2  | 2  | 7  | 10 | 6  | 3  | 8  | 14 | 22 | 24 | 19 | 15 | 10 | 6  | 15 | 10 | 16 | 14 | 6  | 3  | 9    |
| 14   | 9  | 5  | 7  | 5  | 7  | 7  | 8  | 7  | 6  | 13 | 17 | 18 | 19 | 15 | 18 | 16 | 17 | 15 | 23 | 20 | 16 | 11 | 8  | 8  | 12   |
| 15   | 4  | 4  | 7  | 7  | 9  | 8  | 9  | 9  | 9  | 8  | 8  | 7  | 6  | 6  | 6  | 9  | 9  | 9  | 7  | 5  | 6  | 3  | 3  | 2  | 7    |
| 16   | 4  | 4  | 6  | 4  | 1  | 1  | 2  | 2  | 5  | 1  | 1  | 5  | 7  | 9  | 8  | 8  | 6  | 5  | 4  | 5  | 1  | 1  | 1  | 2  | 4    |
| 17   | 0  | 3  | 2  | 1  | 1  | 0  | 0  | 0  | 2  | 3  | 4  | 4  | 6  | 7  | 5  | 8  | 6  | 10 | 5  | 7  | 11 | 10 | 1  | 8  | 5    |
| 18   | 6  | 9  | 5  | 6  | 3  | 1  | 2  | 1  | 2  | 2  | 5  | 11 | 19 | 17 | 20 | 17 | 18 | 21 | 22 | 16 | 15 | 10 | 15 | 16 | 11   |
| 19   | 13 | 11 | 9  | 7  | 8  | 7  | 7  | 9  | 7  | 8  | 13 | 13 | 13 | 12 | 10 | 7  | 5  | 3  | 0  | 0  | 5  | 17 | 2  | 0  | 7    |
| 20   | 0  | 0  | 2  | 1  | 6  | 5  | 7  | 5  | 6  | 8  | 9  | 8  | 13 | 11 | 12 | 13 | 15 | 14 | 11 | 8  | 7  | 3  | 1  | 2  | 3    |
| 21   | 1  | 0  | 1  | 4  | 3  | 1  | 0  | 1  | 2  | 2  | 9  | 8  | 6  | 5  | 12 | 13 | 15 | 14 | 22 | 16 | 15 | 6  | 16 | 0  | 11   |
| 22   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 23   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 24   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 25   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 26   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 27   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 28   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 29   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 30   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| MEAN | 5  | 5  | 5  | 4  | 5  | 5  | 6  | 6  | 6  | 8  | 10 | 11 | 13 | 13 | 12 | 12 | 11 | 11 | 10 | 8  | 7  | 7  | 7  | 6  |      |

TOTAL NUMBER OF OBSERVATIONS = 5880 MEAN = 8.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11   | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|      |     |     |     |     |     |     |     |     |     |     | 40JR |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
| 1    | 253 | 275 | 289 | 154 | 67  | 92  | 117 | 125 | 141 | 224 | 217  | 240 | 223 | 194 | 210 | 210 | 242 | 194 | 184 | 167 | 173 | 170 | 161 | 164 | 184  |
| 2    | 149 | 161 | 154 | 159 | 180 | 151 | 194 | 161 | 177 | 197 | 256  | 314 | 288 | 271 | 319 | 297 | 266 | 298 | 332 | 318 | 312 | 294 | 323 | 177 | 241  |
| 3    | 240 | 311 | 319 | 322 | 299 | 327 | 327 | 327 | 321 | 317 | 307  | 319 | 291 | 353 | 238 | 152 | 292 | 152 | 124 | 31  | 215 | 94  | 146 | 196 | 251  |
| 4    | 245 | 242 | 221 | 190 | 207 | 218 | 126 | 75  | 71  | 143 | 327  | 314 | 337 | 340 | 302 | 226 | 52  | 243 | 229 | 119 | 102 | 83  | 264 | 201 | 201  |
| 5    | 197 | 246 | 237 | 257 | 314 | 104 | 171 | 132 | 166 | 184 | 46   | 282 | 186 | 131 | 171 | 306 | 111 | 208 | 163 | 88  | 120 | 152 | 151 | 150 | 171  |
| 6    | 246 | 129 | 130 | 188 | 249 | 159 | 141 | 143 | 136 | 157 | 158  | 159 | 222 | 206 | 257 | 225 | 180 | 211 | 219 | 223 | 188 | 97  | 125 | 122 | 177  |
| 7    | 172 | 119 | 210 | 300 | 186 | 159 | 118 | 104 | 96  | 251 | 208  | 234 | 237 | 235 | 201 | 160 | 234 | 248 | 235 | 160 | 190 | 113 | 164 | 141 | 181  |
| 8    | 161 | 172 | 154 | 170 | 156 | 161 | 153 | 142 | 152 | 191 | 207  | 212 | 217 | 194 | 202 | 216 | 213 | 217 | 217 | 222 | 205 | 191 | 188 | 184 | 184  |
| 9    | 167 | 143 | 120 | 131 | 157 | 167 | 146 | 139 | 200 | 200 | 193  | 204 | 203 | 199 | 207 | 199 | 206 | 208 | 194 | 190 | 182 | 178 | 178 | 173 | 179  |
| 10   | 168 | 155 | 174 | 164 | 181 | 197 | 204 | 203 | 199 | 216 | 210  | 216 | 214 | 210 | 229 | 228 | 233 | 251 | 277 | 277 | 235 | 254 | 305 | 287 | 221  |
| 11   | 284 | 291 | 240 | 197 | 240 | 179 | 246 | 247 | 203 | 218 | 100  | 128 | 206 | 273 | 308 | 311 | 310 | 275 | 231 | 199 | 214 | 224 | 263 | 259 | 231  |
| 12   | 271 | 241 | 245 | 256 | 273 | 272 | 290 | 324 | 330 | 208 | 179  | 333 | 299 | 304 | 328 | 288 | 237 | 196 | 220 | 161 | 264 | 260 | 266 | 275 | 264  |
| 13   | 237 | 294 | 332 | 227 | 63  | 132 | 207 | 109 | 162 | 234 | 264  | 236 | 232 | 236 | 226 | 244 | 253 | 270 | 311 | 165 | 180 | 183 | 184 | 197 | 210  |
| 14   | 133 | 154 | 168 | 178 | 158 | 157 | 154 | 134 | 99  | 171 | 205  | 211 | 197 | 230 | 234 | 231 | 245 | 256 | 316 | 321 | 327 | 333 | 326 | 304 | 218  |
| 15   | 231 | 295 | 299 | 302 | 310 | 316 | 330 | 316 | 323 | 328 | 320  | 305 | 274 | 311 | 330 | 338 | 331 | 333 | 326 | 316 | 320 | 323 | 293 | 279 | 310  |
| 16   | 205 | 295 | 302 | 310 | 104 | 165 | 67  | 186 | 304 | 254 | 259  | 266 | 319 | 319 | 333 | 337 | 285 | 256 | 208 | 44  | 39  | 169 | 147 | 162 | 229  |
| 17   | 182 | 151 | 213 | 256 | 250 | 167 | 100 | 92  | 113 | 294 | 309  | 249 | 140 | 331 | 247 | 232 | 183 | 157 | 133 | 134 | 218 | 117 | 38  | 33  | 181  |
| 18   | 233 | 237 | 318 | 280 | 212 | 233 | 225 | 267 | 158 | 230 | 308  | 224 | 215 | 216 | 223 | 236 | 267 | 342 | 333 | 328 | 332 | 335 | 338 | 333 | 268  |
| 19   | 329 | 326 | 329 | 320 | 325 | 320 | 313 | 312 | 288 | 314 | 320  | 320 | 323 | 322 | 330 | 324 | 310 | 106 | 124 | 96  | 118 | 272 | 306 | 289 | 281  |
| 20   | 176 | 121 | 298 | 303 | 304 | 324 | 326 | 307 | 314 | 331 | 341  |     | 265 | 277 | 236 | 126 | 235 | 151 | 323 | 84  | 91  | 114 | 190 | 307 | 230  |
| 21   | 230 | 158 | 313 | 80  | 98  | 204 | 216 | 156 | 315 |     | 46   | 222 | 263 | 210 | 244 | 160 | 160 | 115 | 172 | 193 | 170 | 163 | 177 | 201 | 187  |
| 22   | 151 | 115 | 125 | 180 | 203 | 198 | 211 | 38  | 183 | 239 | 270  | 281 | 209 | 304 | 234 | 307 | 180 | 229 | 5   | 22  | 82  | 115 | 114 | 116 | 172  |
| 23   | 104 | 119 | 219 | 50  | 105 | 232 | 282 | 225 | 323 | 326 | 320  | 328 | 204 | 190 | 240 | 255 | 161 | 61  | 72  | 70  | 65  | 124 | 219 | 168 | 181  |
| 24   | 252 | 140 | 170 | 298 | 223 | 212 | 200 | 224 | 339 | 269 | 328  | 286 | 229 | 134 | 316 | 84  | 211 | 112 | 43  | 40  | 166 | 254 | 263 | 242 | 209  |
| 25   | 191 | 106 | 194 | 265 | 150 | 101 | 90  | 170 | 270 | 330 | 299  | 178 | 198 | 304 | 283 | 317 | 312 | 312 | 262 | 196 | 225 | 219 | 106 | 121 | 211  |
| 26   | 174 | 177 | 200 | 143 | 172 | 184 | 175 | 165 | 225 | 339 | 292  | 220 | 180 | 193 | 175 | 225 | 217 | 221 | 237 | 225 | 216 | 247 | 129 | 236 | 200  |
| 27   | 224 | 125 | 210 | 83  | 72  | 67  | 230 | 146 | 145 | 299 |      | 220 | 206 | 149 | 175 | 168 | 150 | 151 | 148 | 127 | 119 | 153 | 54  | 117 | 150  |
| 28   | 115 | 136 | 310 | 221 | 149 | 139 | 242 | 210 | 169 | 259 | 194  | 194 | 194 | 212 | 204 | 200 | 212 | 182 | 169 | 201 | 161 | 141 | 176 | 197 | 191  |
| 29   | 152 | 92  | 129 | 144 | 159 | 196 | 94  | 95  | 72  | 169 | 277  | 297 | 322 | 344 | 292 | 267 | 256 | 276 | 195 | 212 | 158 | 150 | 176 | 172 | 190  |
| 30   | 171 | 130 | 146 | 139 | 151 | 135 | 129 | 113 | 150 | 218 | 209  | 211 | 180 | 171 | 193 | 212 | 213 | 221 | 224 | 214 | 219 | 203 | 199 | 195 | 181  |
| MEAN | 203 | 191 | 226 | 211 | 194 | 189 | 192 | 179 | 206 | 239 | 247  | 241 | 235 | 245 | 248 | 238 | 226 | 215 | 207 | 172 | 187 | 191 | 199 | 200 | 200  |

TOTAL NUMBER OF OBSERVATIONS = 8540 MEAN = 212.

: INDICATES CALIBRATION DURING THE HOUR



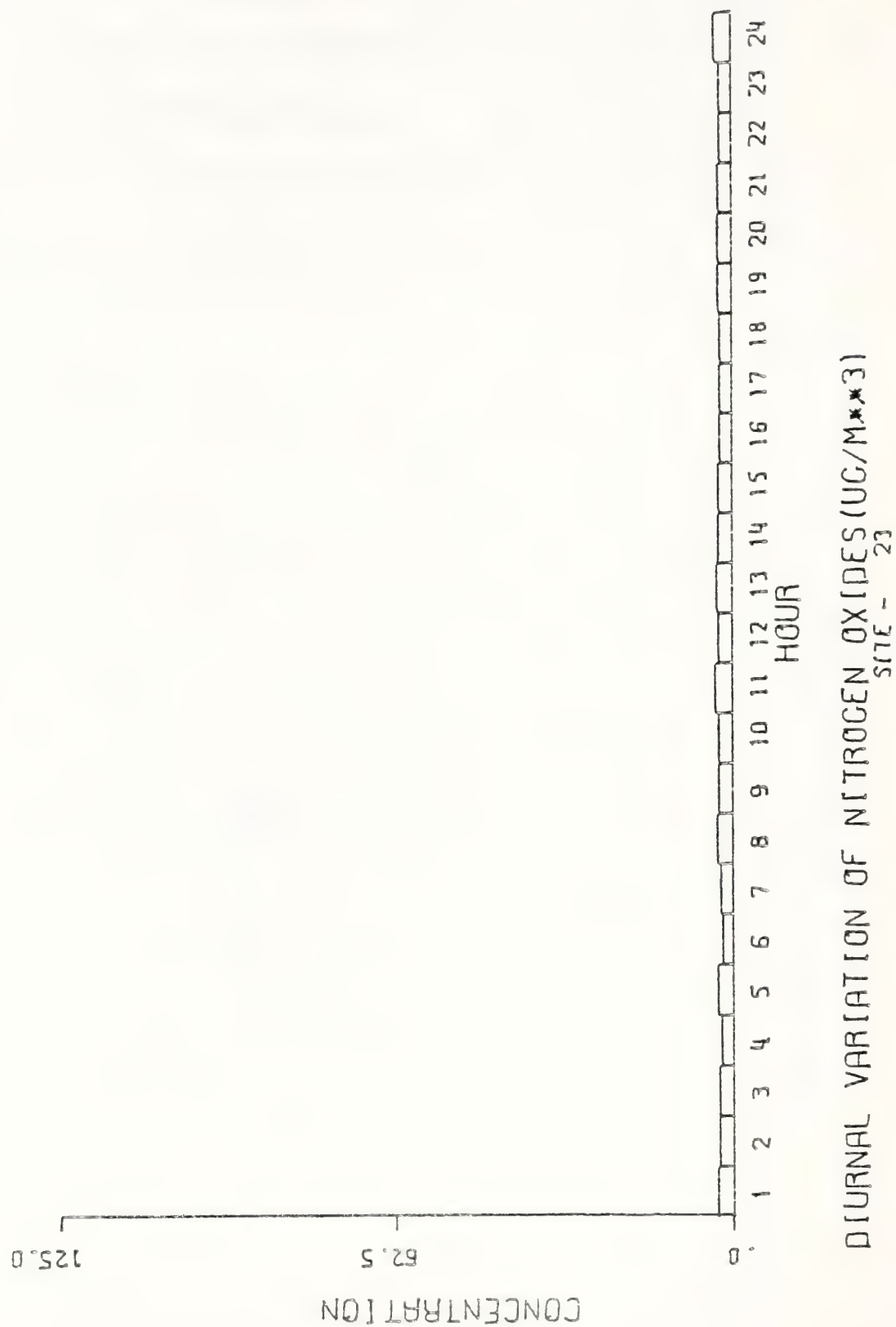
DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 200 FEET  
TRAILER NO. - 23 PERIOD( 4/ 1/77 TO 4/30/77)

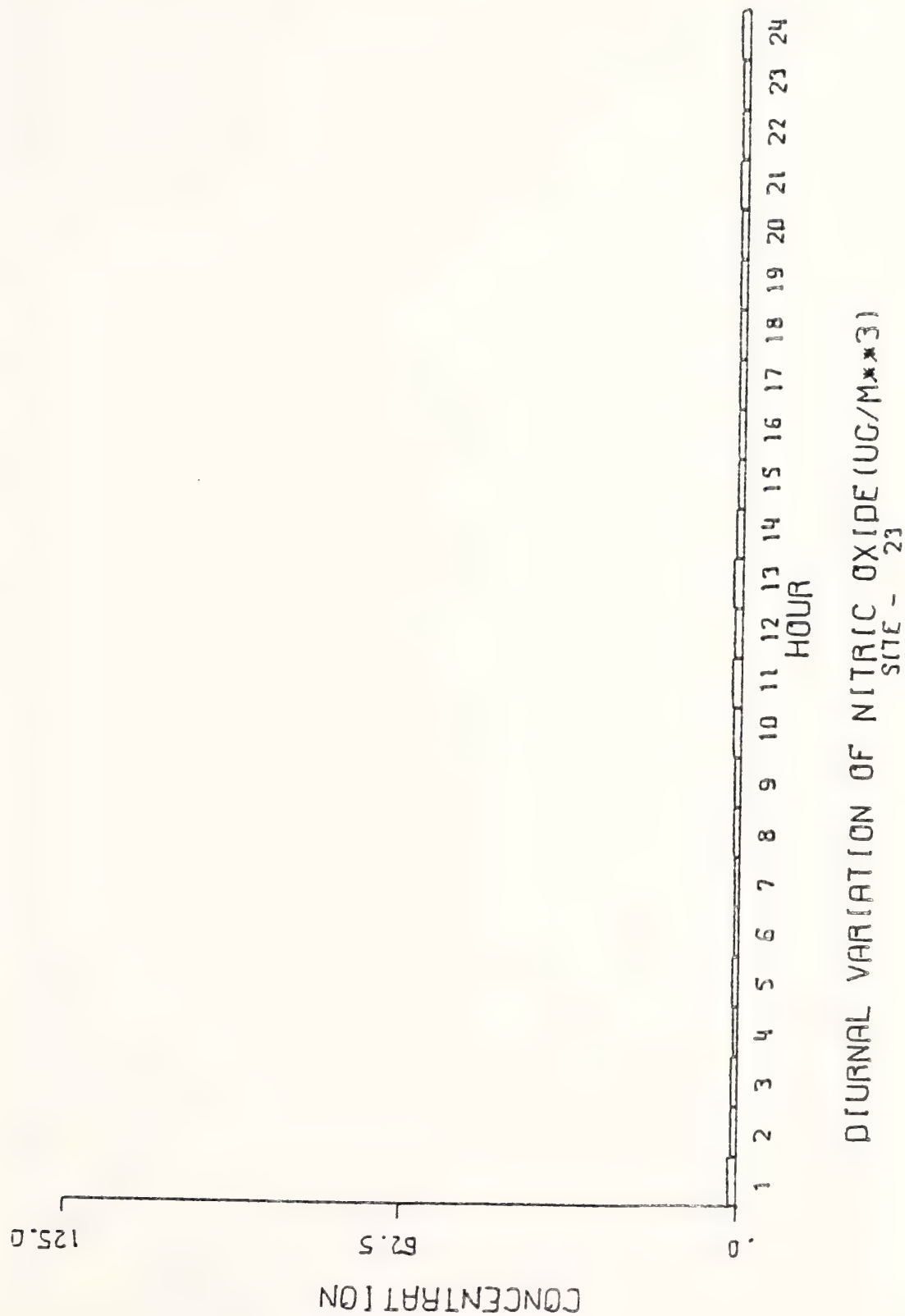
HOUR

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 2   | 9   | -10 | -37 | -6  | 1   | 6   | 7   | -6  | 4   | 7   | 8   | 9   | 8   | 2   | 7   | 5   | 8   | 9   | 9   | -4  | 7   | 8   | 9   | -6   |
| 2    | -37 | -24 | -31 | -39 | -29 | -12 | -27 | -32 | -25 | -16 | -11 | -7  | -7  | -4  | -7  | -6  | -5  | -6  | -7  | -7  | -11 | -12 | -14 | -15 | -9   |
| 3    | -6  | -3  | -7  | -4  | -3  | 0   | 2   | 3   | 0   | 2   | 5   | 7   | 8   | 6   | 3   | 7   | 2   | 4   | 9   | -10 | -10 | -9  | -8  | -10 | -17  |
| 4    | -1  | -6  | -6  | -1  | 0   | 0   | 0   | 0   | -1  | -5  | -5  | 0   | -1  | -3  | 5   | 7   | 4   | 3   | 4   | 0   | -7  | -8  | 0   | 0   | -6   |
| 5    | 3   | -3  | -5  | -4  | -2  | 0   | 7   | -10 | 0   | 3   | 1   | 5   | 6   | 8   | 5   | 9   | 7   | 9   | -12 | -15 | -5  | -11 | -14 | -14 | 3    |
| 6    | -2  | -4  | 0   | 8   | -2  | 0   | 3   | -12 | 0   | 3   | -3  | -4  | -4  | -6  | 2   | 0   | 0   | 0   | 6   | -5  | -4  | -3  | -1  | -3  | -3   |
| 7    | -2  | -5  | -2  | -2  | -8  | -9  | -9  | -5  | -3  | -9  | -11 | -9  | -8  | -6  | 8   | 7   | 5   | 8   | 6   | -5  | 0   | 0   | -2  | -1  | -6   |
| 8    | 0   | 4   | -1  | -2  | -3  | 0   | 0   | 1   | 0   | -4  | -8  | 5   | 7   | 7   | 5   | 0   | 5   | 4   | 2   | -2  | 7   | 0   | -5  | -6  | -4   |
| 9    | -3  | 1   | 2   | -2  | -1  | 0   | -3  | -4  | -5  | -8  | -5  | -5  | -4  | -5  | -4  | -6  | -6  | 2   | 0   | -7  | -6  | -5  | -5  | -6  | -5   |
| 10   | -5  | -13 | -20 | -21 | -32 | -34 | -13 | -12 | -24 | -9  | -7  | -5  | -4  | -5  | -4  | -2  | -6  | 2   | 0   | -4  | -1  | -5  | -6  | 0   | -10  |
| 11   | -5  | -4  | -10 | -26 | -28 | -33 | -8  | -16 | -21 | -9  | -2  | -6  | -9  | -6  | -8  | -8  | 7   | 8   | 7   | -7  | -7  | -7  | -5  | -7  | -8   |
| 12   | -8  | -2  | -8  | -7  | -7  | -7  | 6   | 0   | -4  | -8  | -10 | -8  | -7  | -8  | -8  | 10  | 9   | 9   | -11 | -11 | -10 | -10 | -12 | -12 | -9   |
| 13   | -10 | -3  | 0   | -2  | -4  | -9  | -9  | -4  | 3   | 1   | 7   | 3   | 3   | 3   | 2   | 5   | 1   | 5   | 4   | -2  | 5   | 1   | 2   | 1   | -4   |
| 14   | -4  | -5  | -4  | -6  | -5  | 0   | -2  | -1  | 1   | 0   | -4  | -4  | -9  | -11 | -11 | -10 | -8  | 6   | 2   | -6  | -6  | -6  | -7  | -6  | -1   |
| 15   | -5  | -6  | -5  | -6  | -5  | -5  | -7  | -7  | -6  | -9  | -7  | -7  | -5  | -7  | -7  | -7  | -14 | -12 | 48  | 46  | -25 | -27 | -10 | 50  | -3   |
| 16   | 50  | 50  | -2  | -4  | -22 | -24 | -17 | -23 | -20 | -9  | 6   | 6   | 5   | 7   | 7   | 6   | 7   | -12 | -12 | -6  | -13 | -12 | -2  | 0   | -6   |
| 17   | 2   | 0   | 0   | -1  | -4  | 1   | 2   | 0   | -10 | 2   | 4   | 0   | 5   | 3   | 0   | 5   | 4   | 3   | 0   | -10 | -5  | 0   | 2   | 2   | -3   |
| 18   | 13  | 39  | 14  | 5   | 24  | 17  | 8   | 1   | 5   | 3   | 2   | 2   | 1   | 0   | -1  | 2   | 2   | 2   | 0   | 34  | 30  | 19  | 10  | 27  | 5    |
| 19   | 27  | 31  | 34  | 20  | 24  | 20  | 34  | 8   | 2   | 2   | 5   | 3   | 2   | 4   | 4   | 1   | 4   | 2   | 0   | 0   | 6   | 7   | 14  | 28  | 7    |
| 20   | 4   | 0   | 14  | 23  | 23  | 0   | 0   | -3  | -2  | -4  | -5  | -6  | 0   | -1  | -3  | -4  | 7   | 0   | 0   | 0   | -4  | -1  | 0   | 3   | 1    |
| 21   | -2  | -2  | 0   | 1   | 2   | 1   | 0   | 0   | -5  | 1   | 3   | 0   | 0   | -7  | -2  | -3  | -2  | 7   | 0   | -1  | -7  | -4  | 5   | 1   | -2   |
| 22   | -12 | 0   | -2  | 5   | 7   | 1   | -1  | -5  | -6  | -8  | -11 | -11 | -3  | -8  | -7  | -7  | -10 | -11 | -11 | -8  | -8  | -6  | -7  | 2   | -6   |
| 23   | -4  | 0   | 1   | 0   | -9  | -4  | -4  | -6  | -5  | 0   | 2   | -6  | -9  | -9  | -8  | -6  | -3  | -7  | 9   | -8  | -4  | -5  | -7  | -1  | -5   |
| 24   | -4  | 0   | 7   | -3  | -4  | -3  | 2   | -1  | -4  | 2   | -4  | -5  | -6  | -6  | -3  | -7  | -7  | 6   | -9  | -7  | -7  | -6  | -7  | -7  | -5   |
| 25   | 0   | -5  | -8  | -6  | -9  | -5  | -7  | -3  | -2  | -7  | -11 | -7  | -10 | -10 | -11 | -14 | -10 | -13 | -17 | 1   | -8  | -5  | -11 | -10 | -8   |
| 26   | -1  | -0  | -3  | -4  | -5  | -3  | -4  | -6  | -6  | -5  | -5  | -6  | -6  | -6  | -7  | -6  | -7  | -7  | -5  | -2  | -4  | -5  | -5  | -5  | -1   |
| 27   | -12 | 0   | -2  | 5   | 7   | 1   | -1  | -5  | -6  | -8  | -11 | -11 | -3  | -8  | -7  | -7  | -10 | -11 | -11 | -8  | -8  | -6  | -7  | 2   | -2   |
| 28   | -4  | 0   | 1   | 0   | -9  | -4  | -4  | -6  | -5  | 0   | 2   | -6  | -9  | -9  | -8  | -6  | -3  | -7  | 9   | -8  | -4  | -5  | -7  | -1  | -5   |
| 29   | -4  | 0   | 7   | -3  | -4  | -3  | 2   | -1  | -4  | 2   | -4  | -5  | -6  | -6  | -3  | -7  | -7  | 6   | -9  | -7  | -7  | -6  | -7  | -7  | -5   |
| 30   | 0   | -5  | -8  | -6  | -9  | -5  | -7  | -3  | -2  | -7  | -11 | -7  | -10 | -10 | -11 | -14 | -10 | -13 | -17 | 1   | -8  | -5  | -11 | -10 | -8   |
| MEAN | -1  | -0  | -3  | -4  | -5  | -3  | -4  | -6  | -6  | -5  | -5  | -6  | -6  | -6  | -7  | -6  | -7  | -7  | -5  | -2  | -4  | -5  | -5  | -5  | -1   |

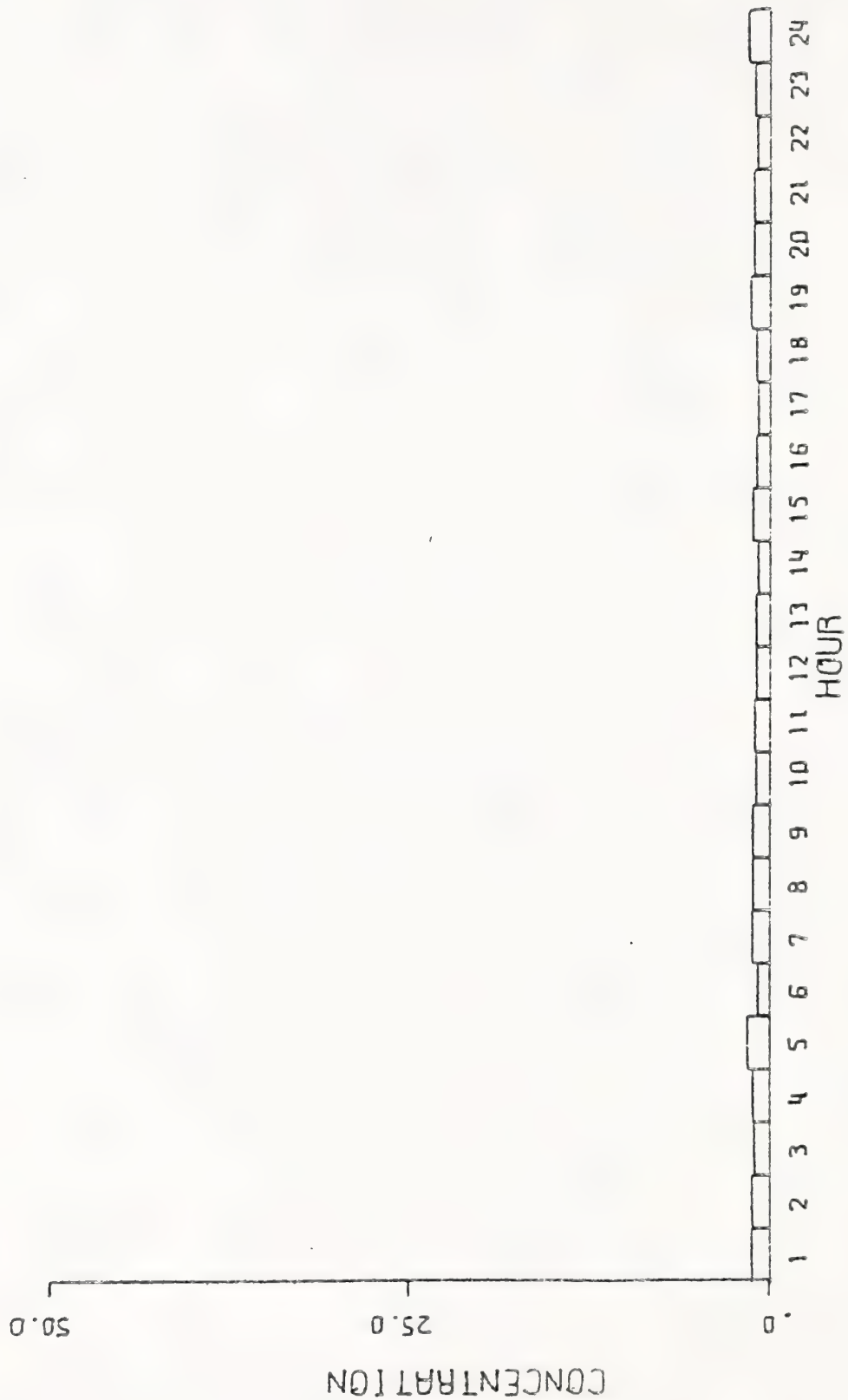
TOTAL NUMBER OF OBSERVATIONS = 4531 MEAN = -5.

: INDICATES CALIBRATION DURING THE HOUR

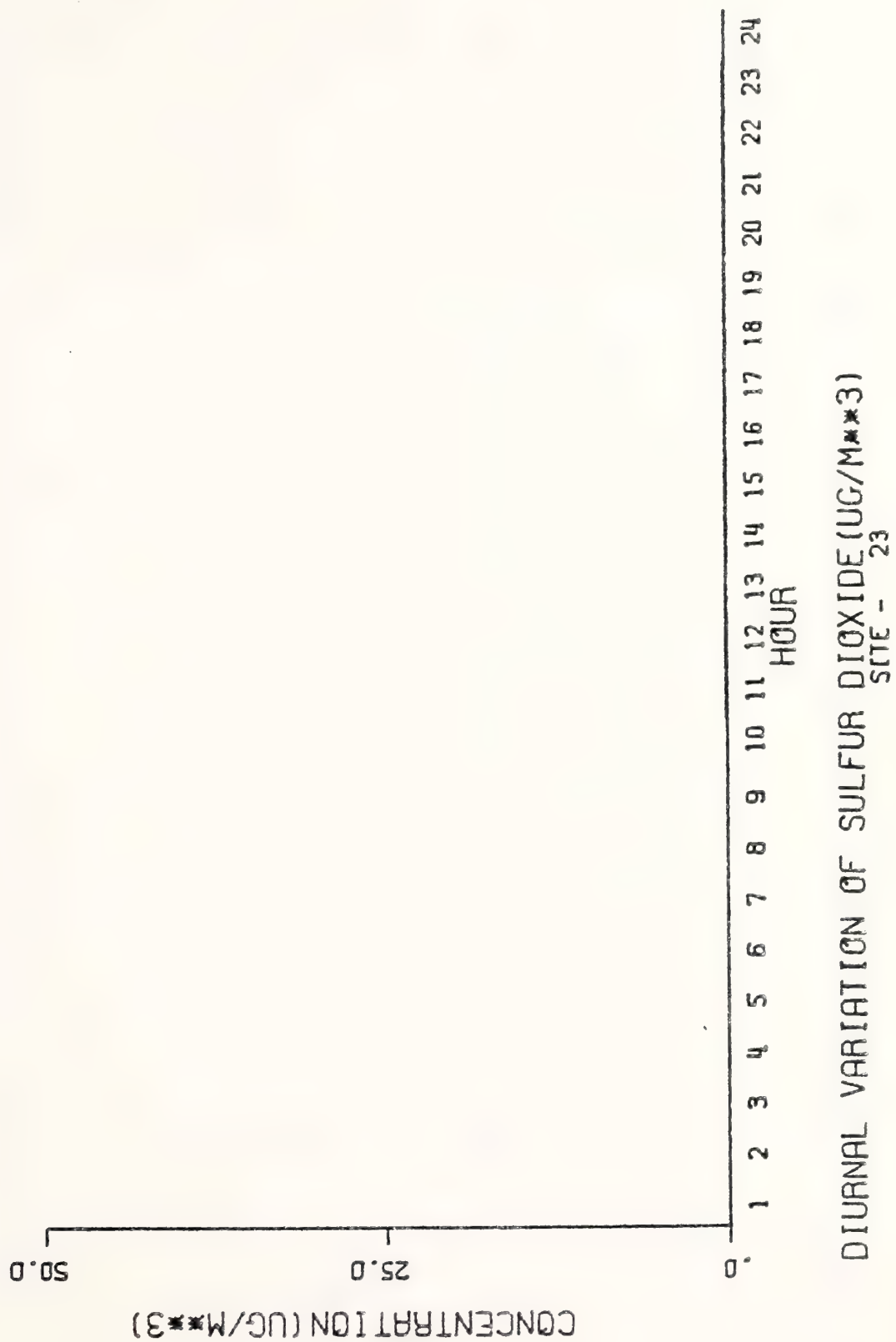






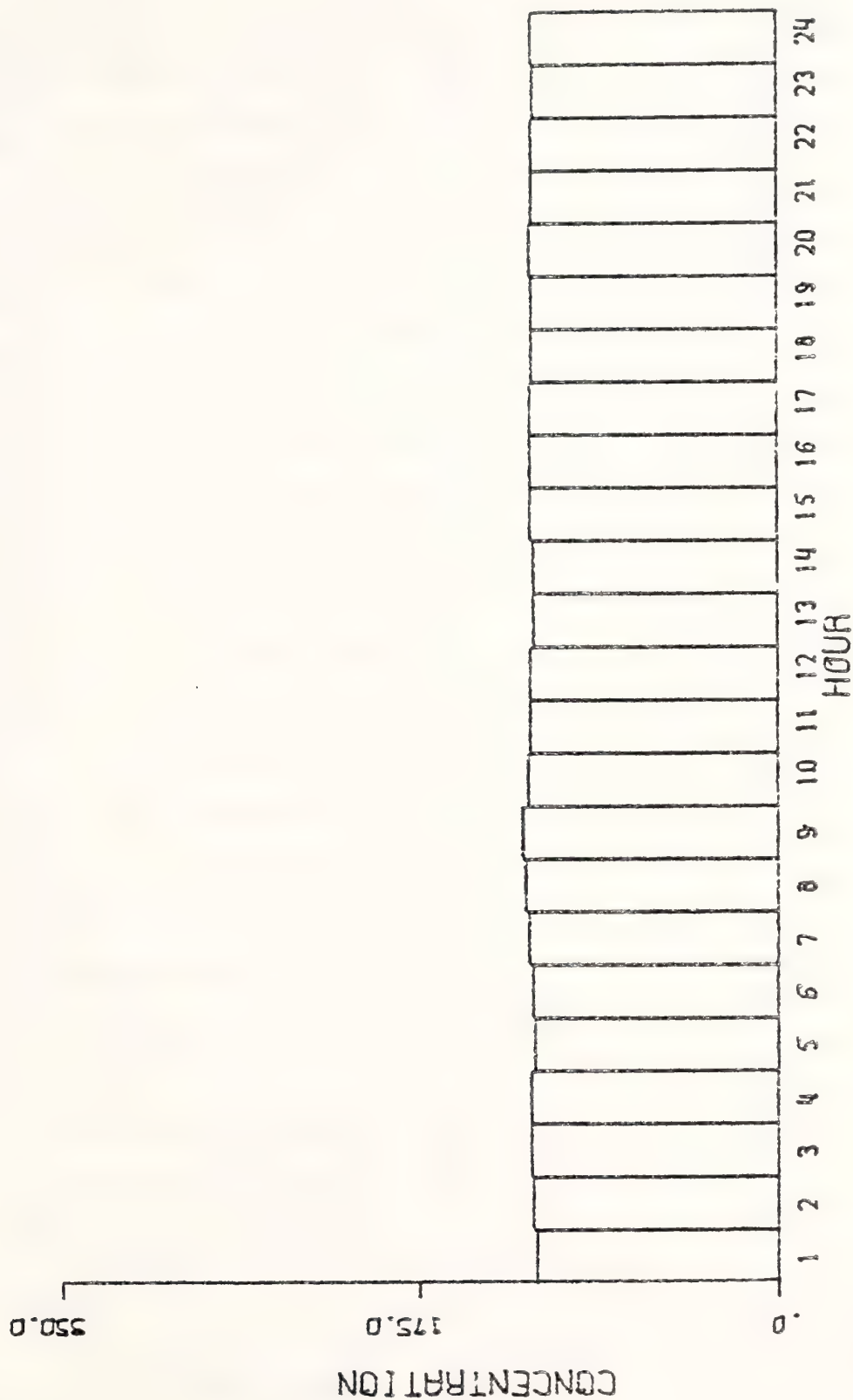


DIURNAL VARIATION OF NITROGEN DIOXIDE (UG/M<sup>3</sup>)  
SITE - 23

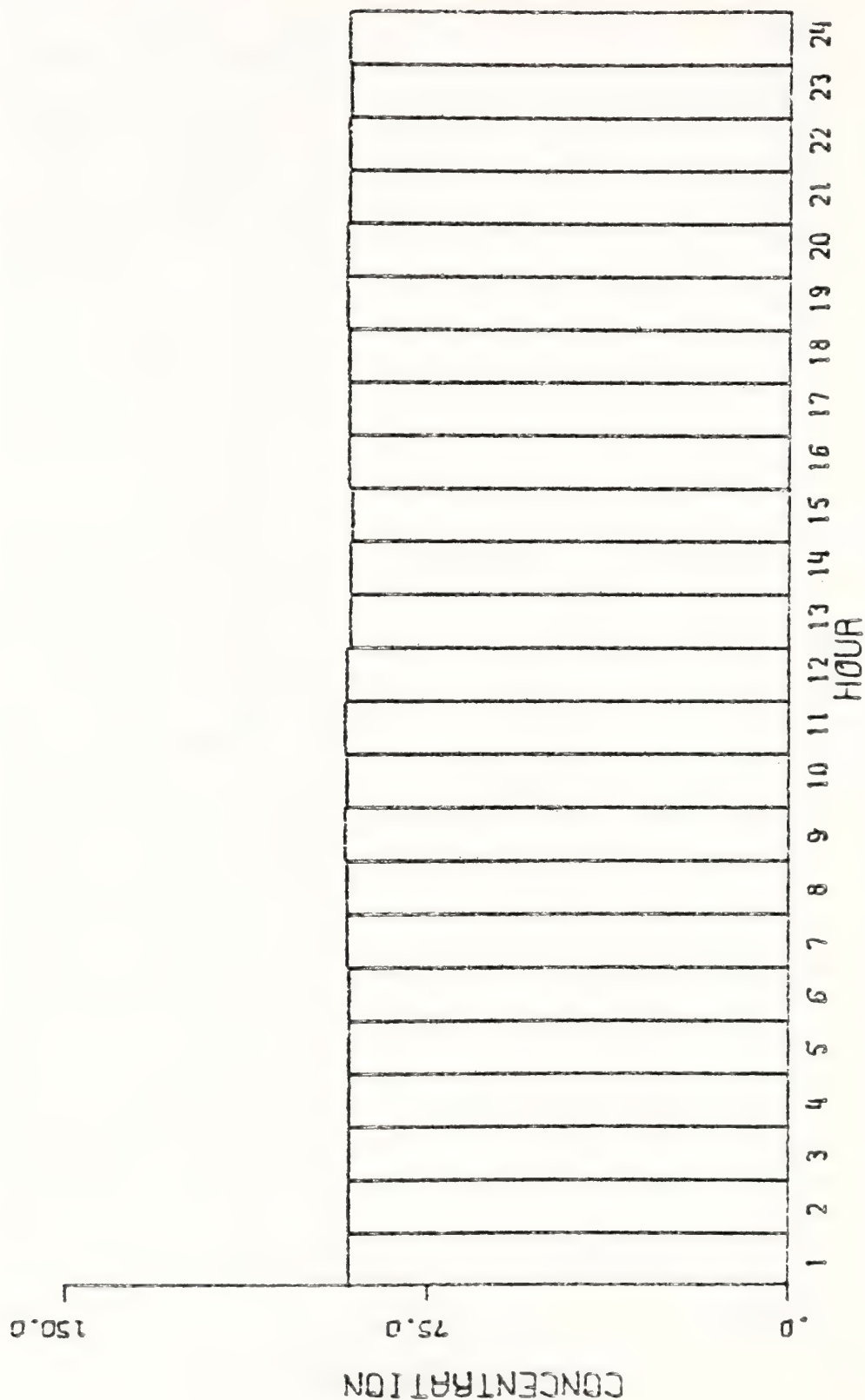




DIURNAL VARIATION OF HYDROGEN SULFIDE (UG/MM<sup>3</sup>)  
SITE - 23

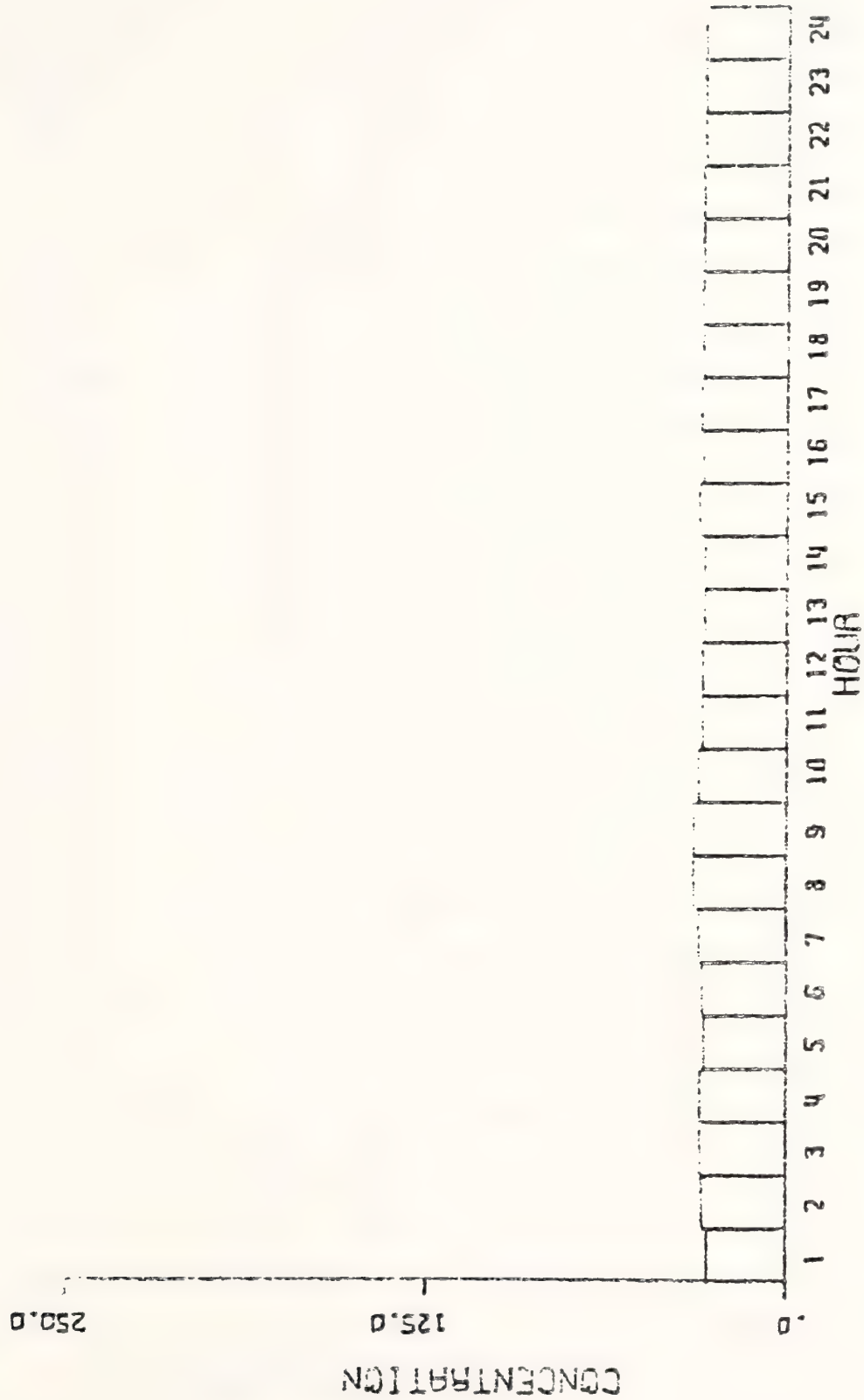


DIURNAL VARIATION OF TOTAL HYDROCARBONS(UG/M\*\*3 X 10\*\*3-1)  
SITE - 23

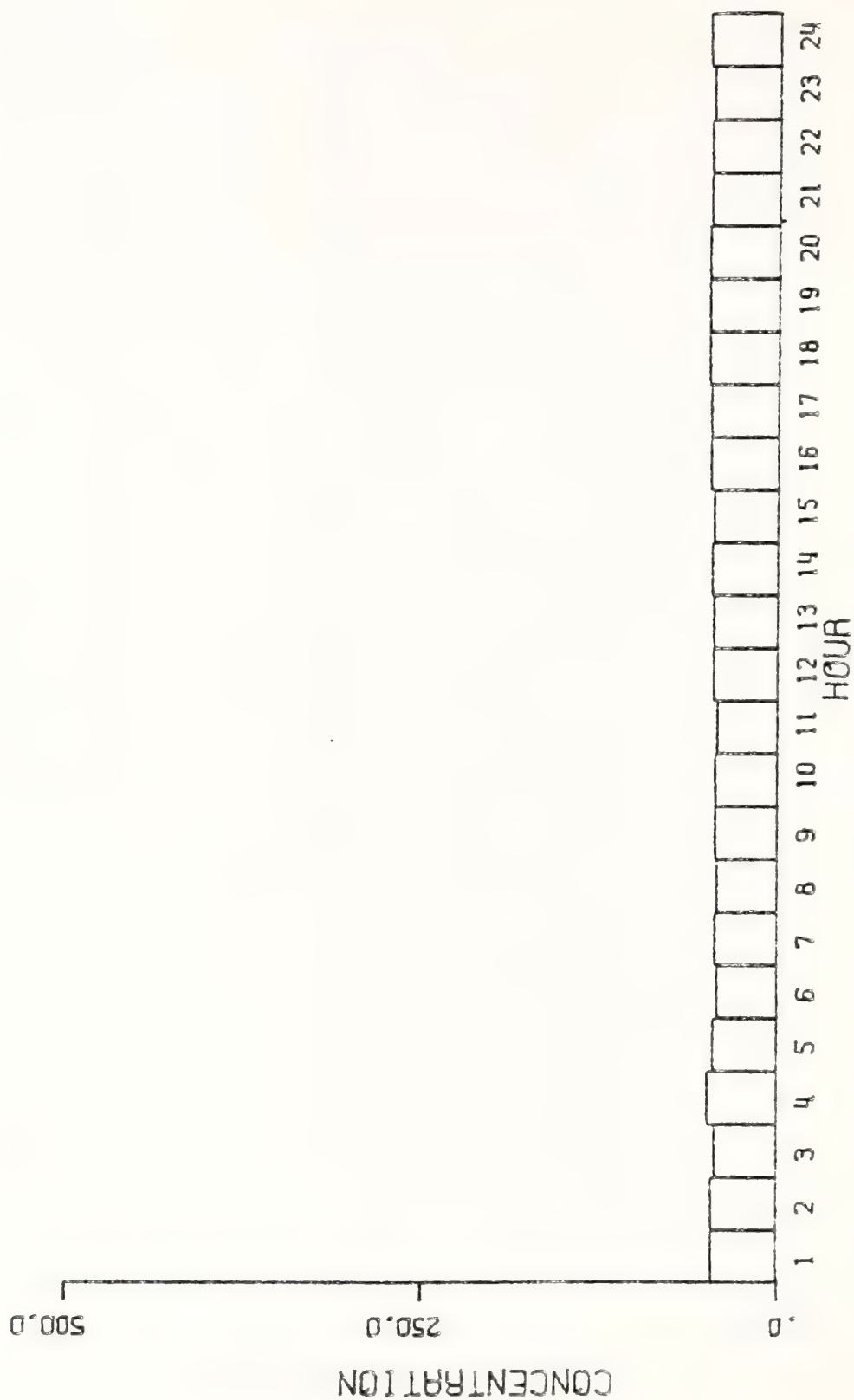


DIURNAL VARIATION OF METHANE (UG/M<sup>3</sup> X 10<sup>3</sup>-1)  
SITE - 23

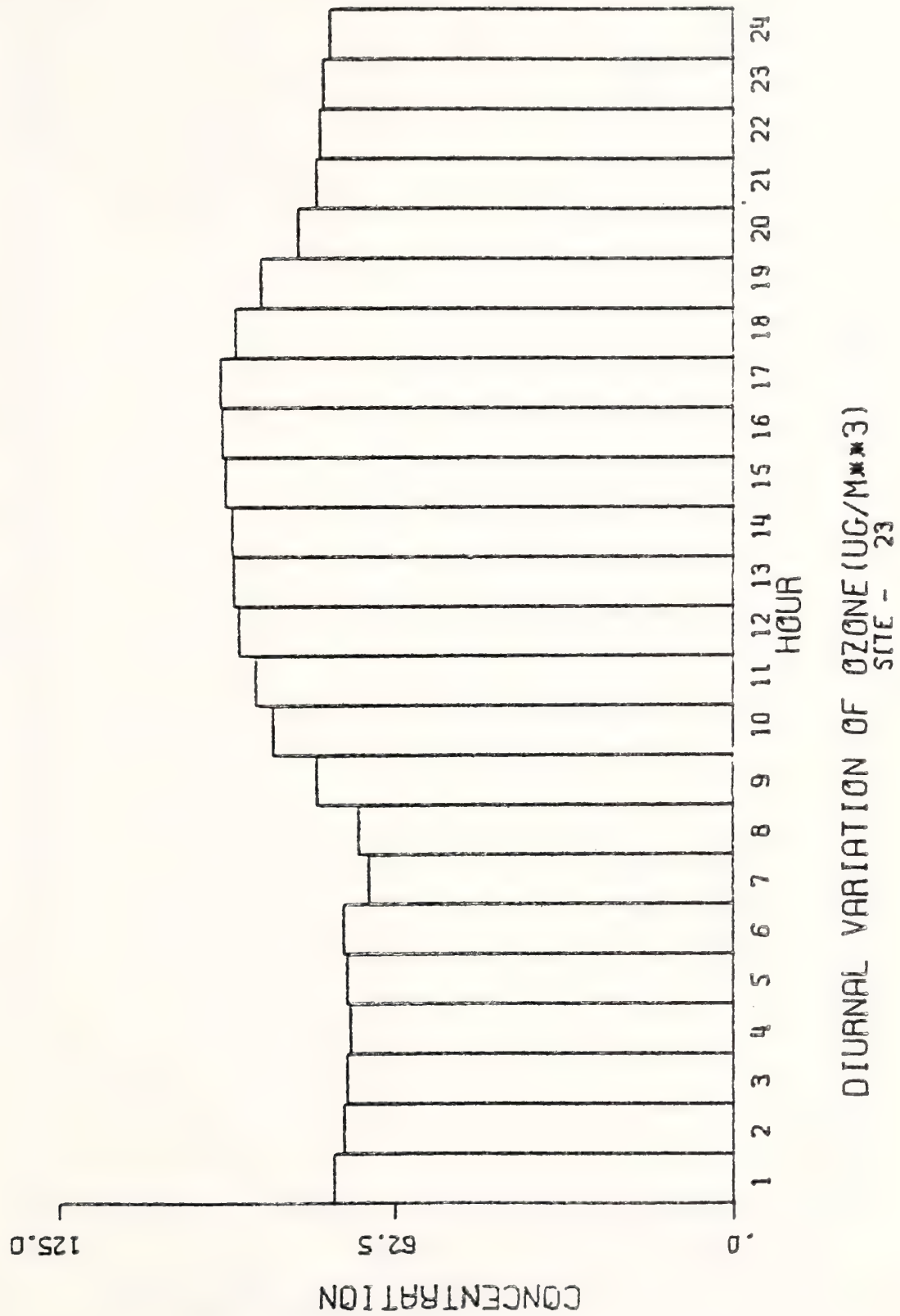


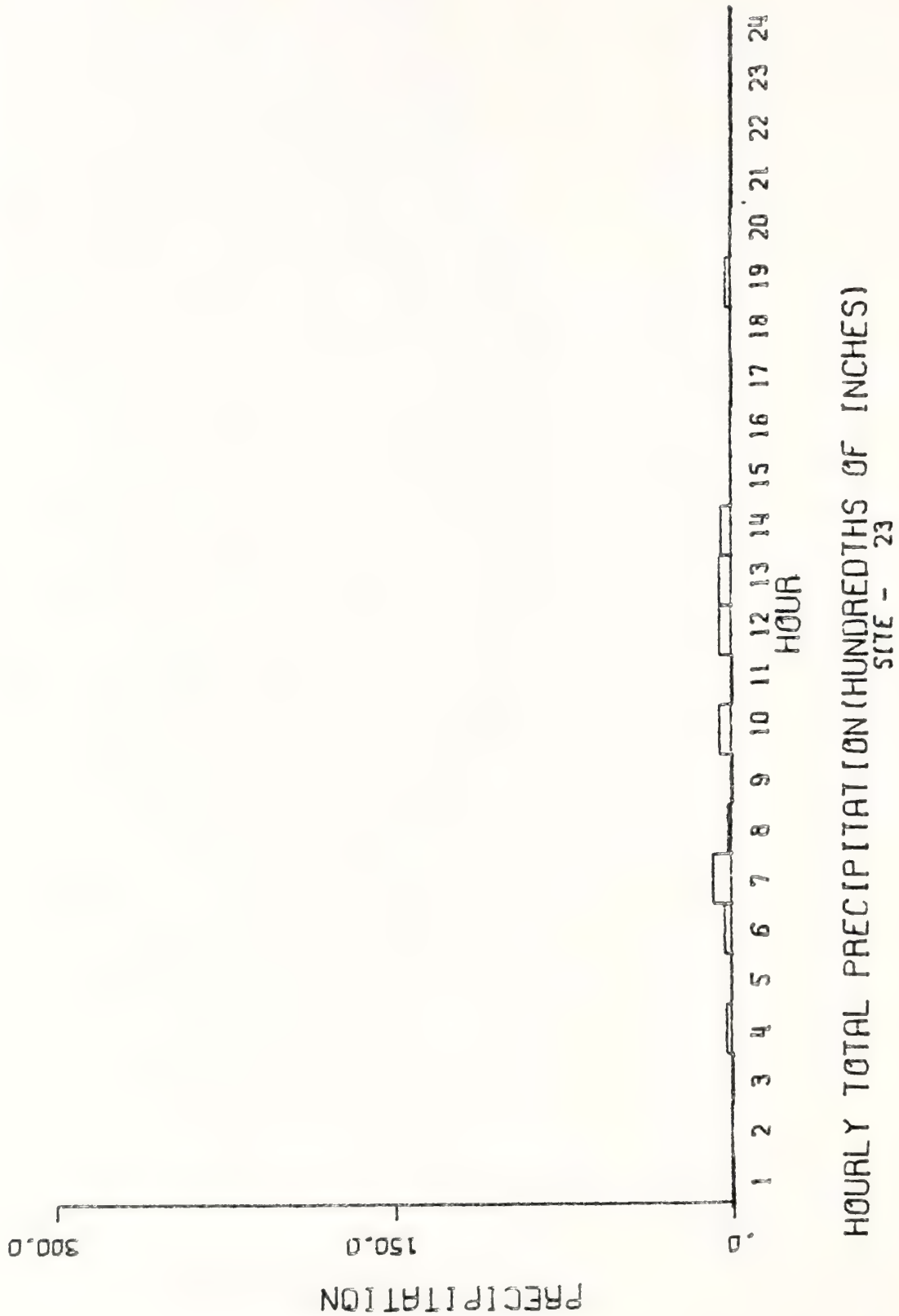


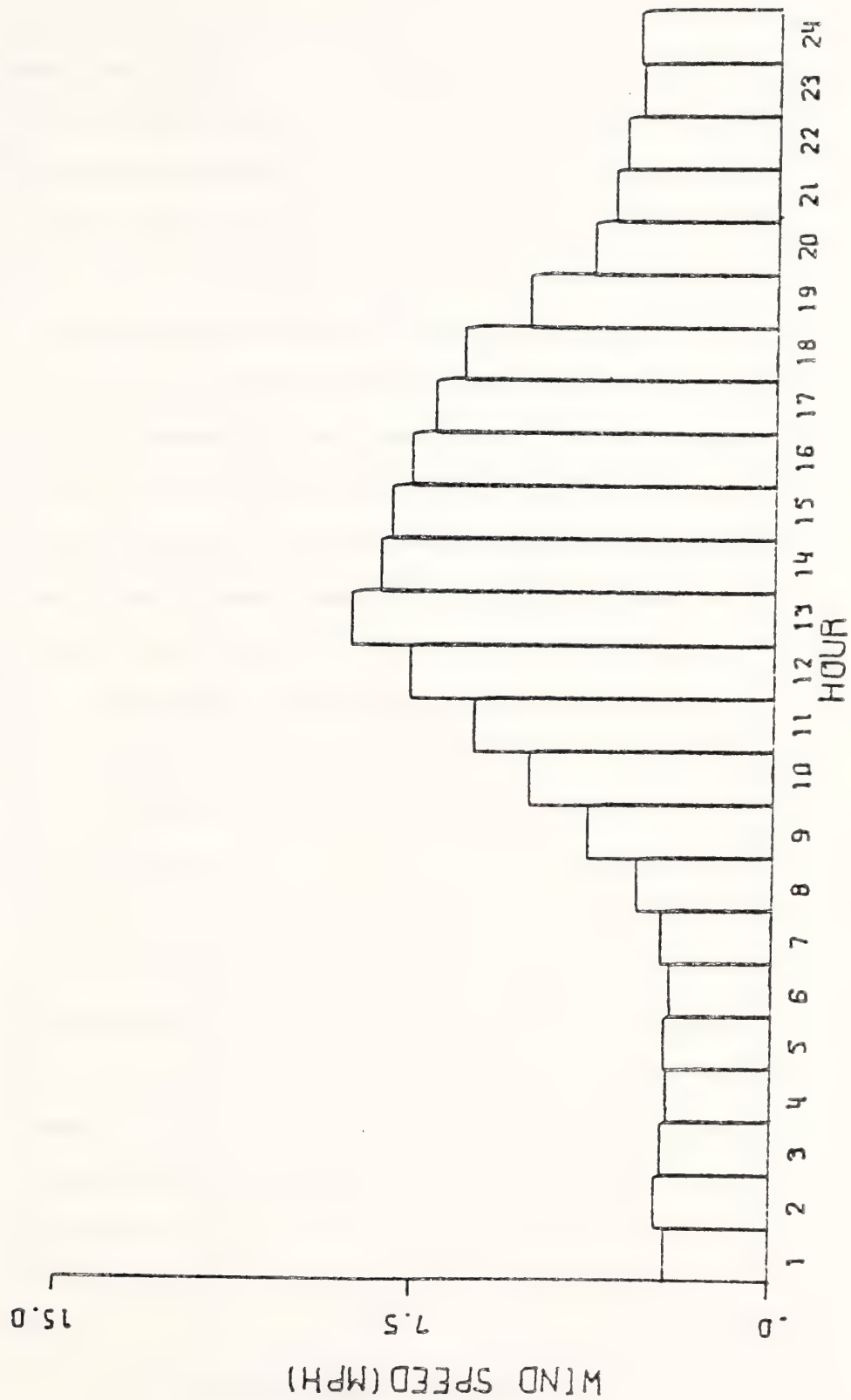
DIURNAL VARIATION OF NON-METHANE HYDROCARBONS (UG/M<sup>3</sup> X 10<sup>xx-1</sup>)  
SITE - 23



DIURNAL VARIATION OF CARBON MONOXIDE (UG/M<sup>3</sup> X 10<sup>3</sup>-1)  
SITE - 23

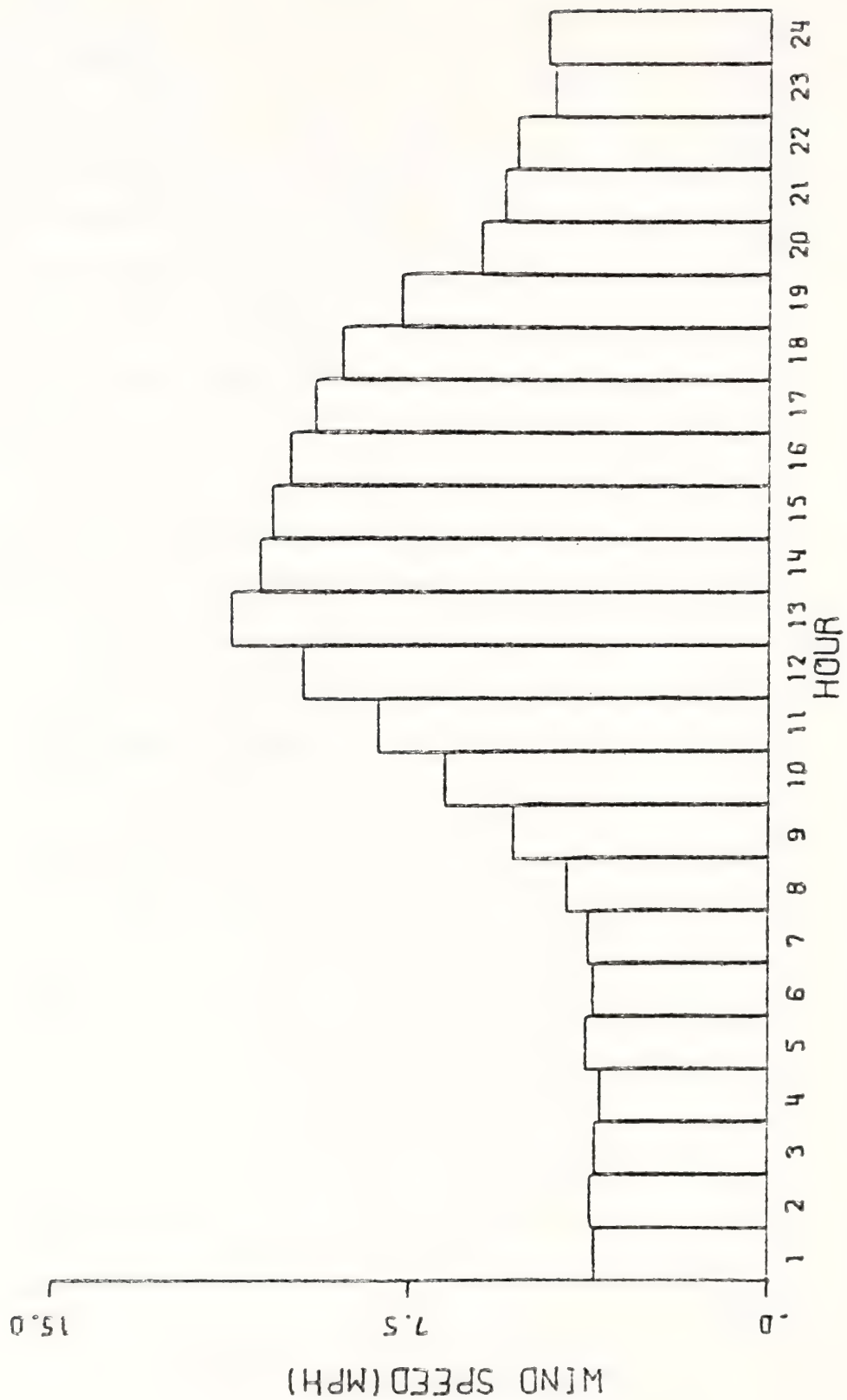




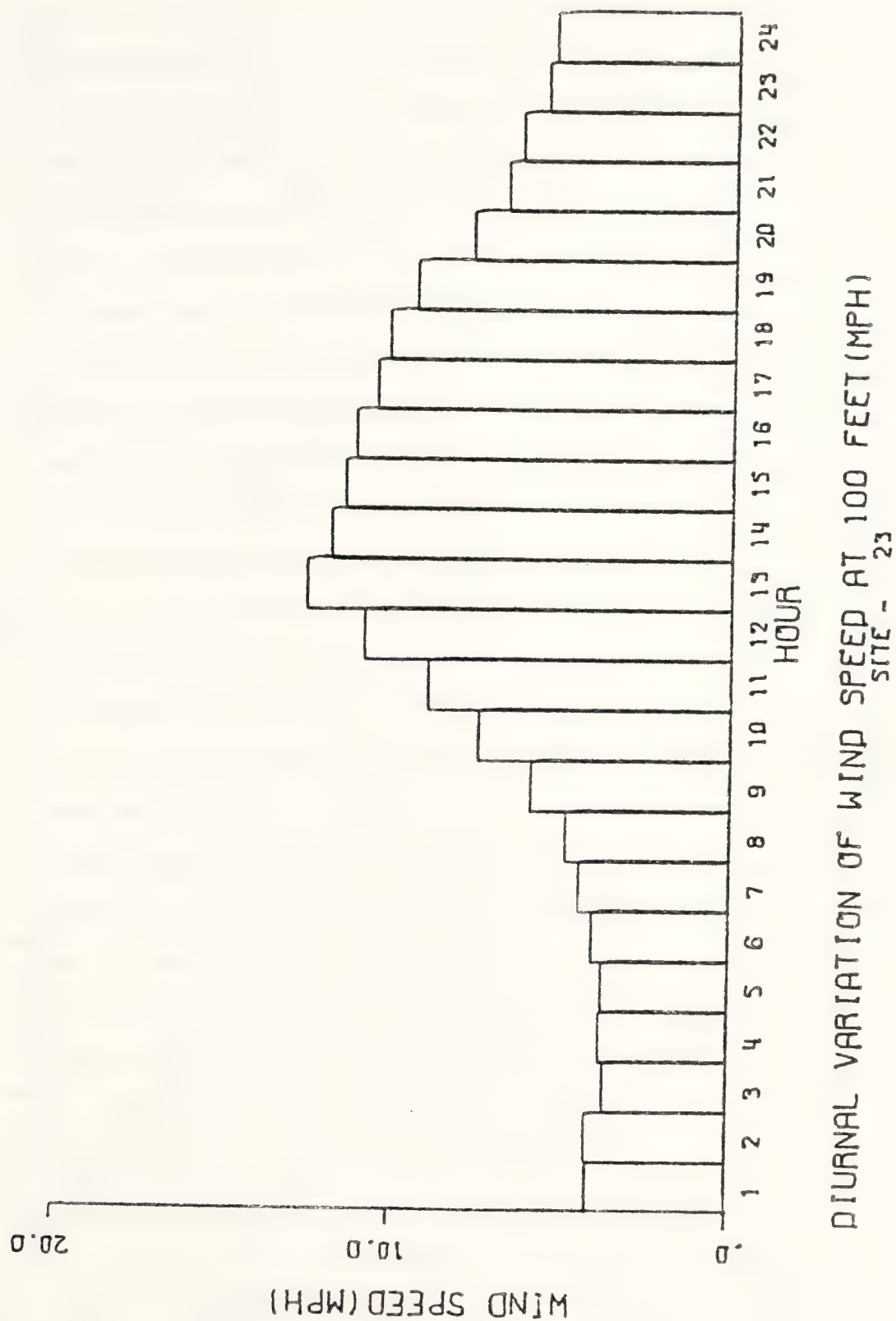


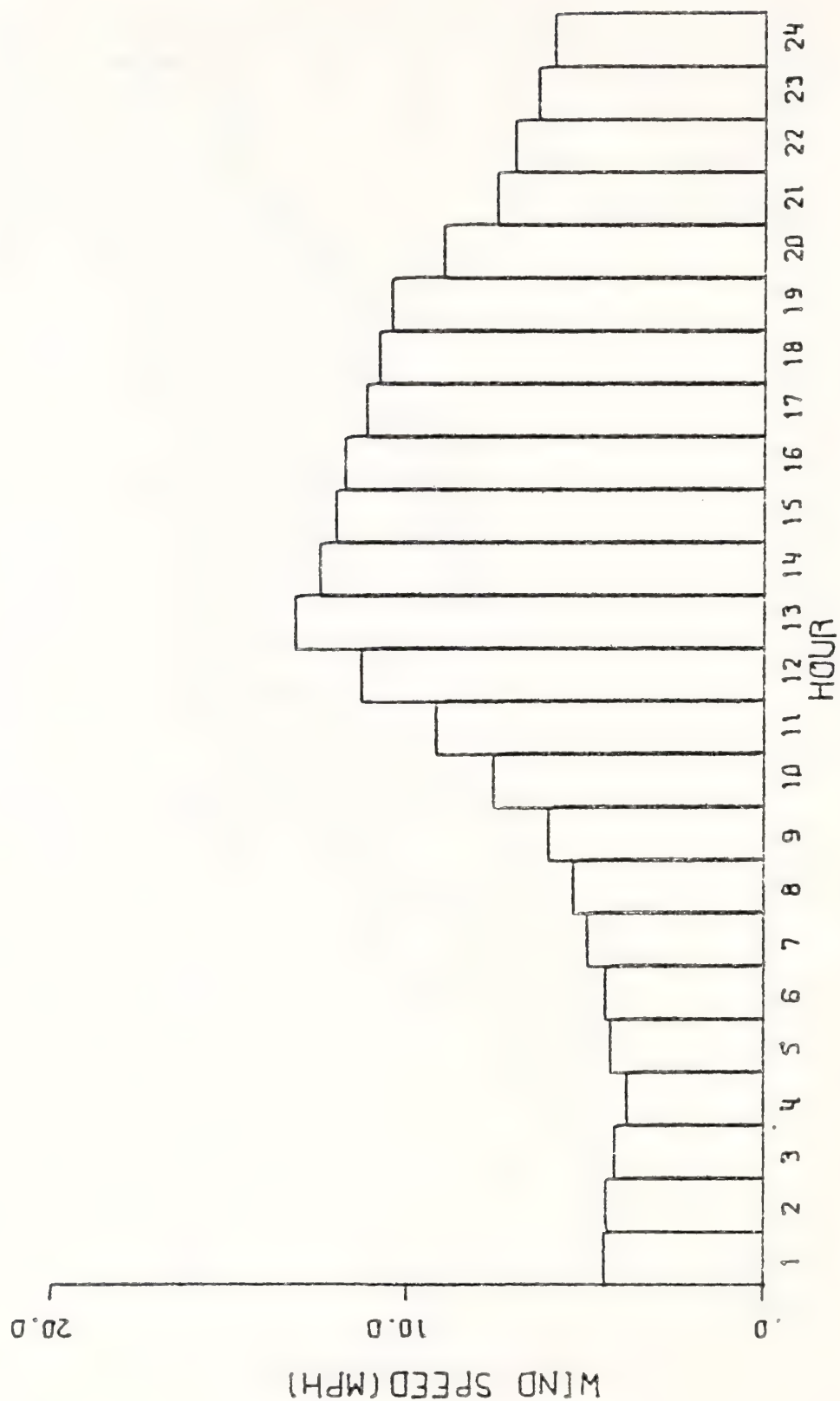
DIURNAL VARIATION OF WIND SPEED AT 8 FEET (MPH)  
SITE - 23



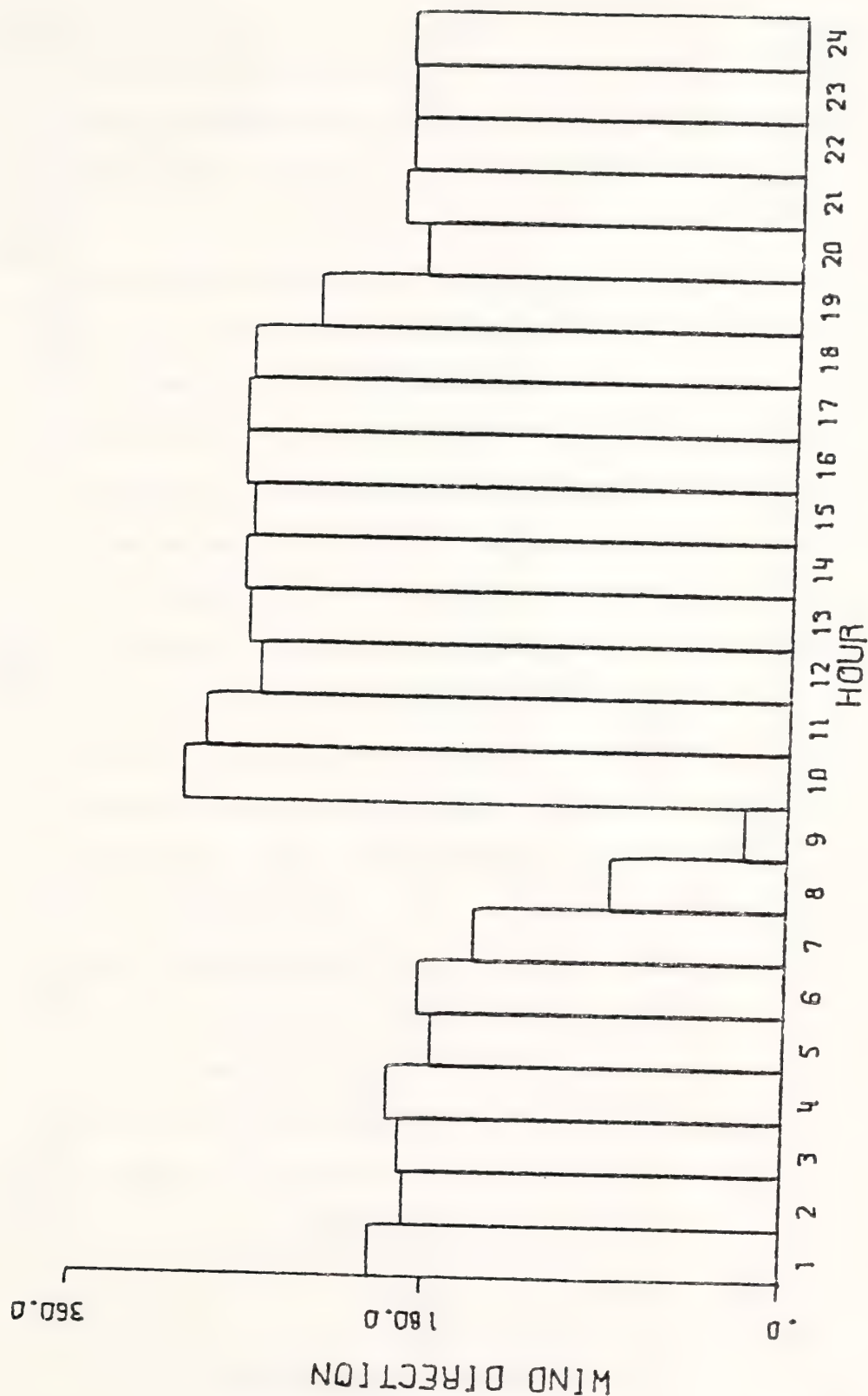


DIURNAL VARIATION OF WIND SPEED AT 30 FEET (MPH)  
SITE - 23

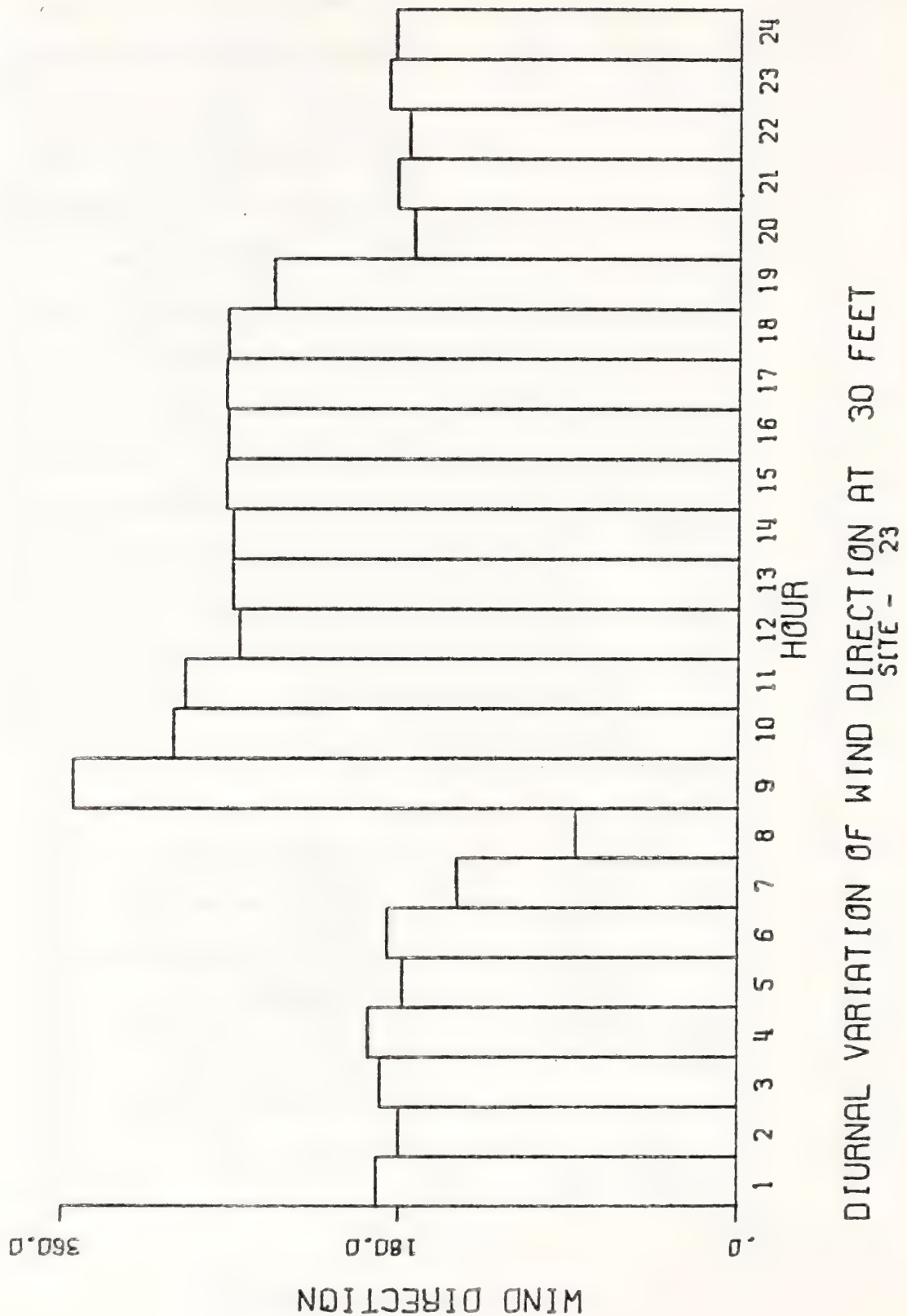




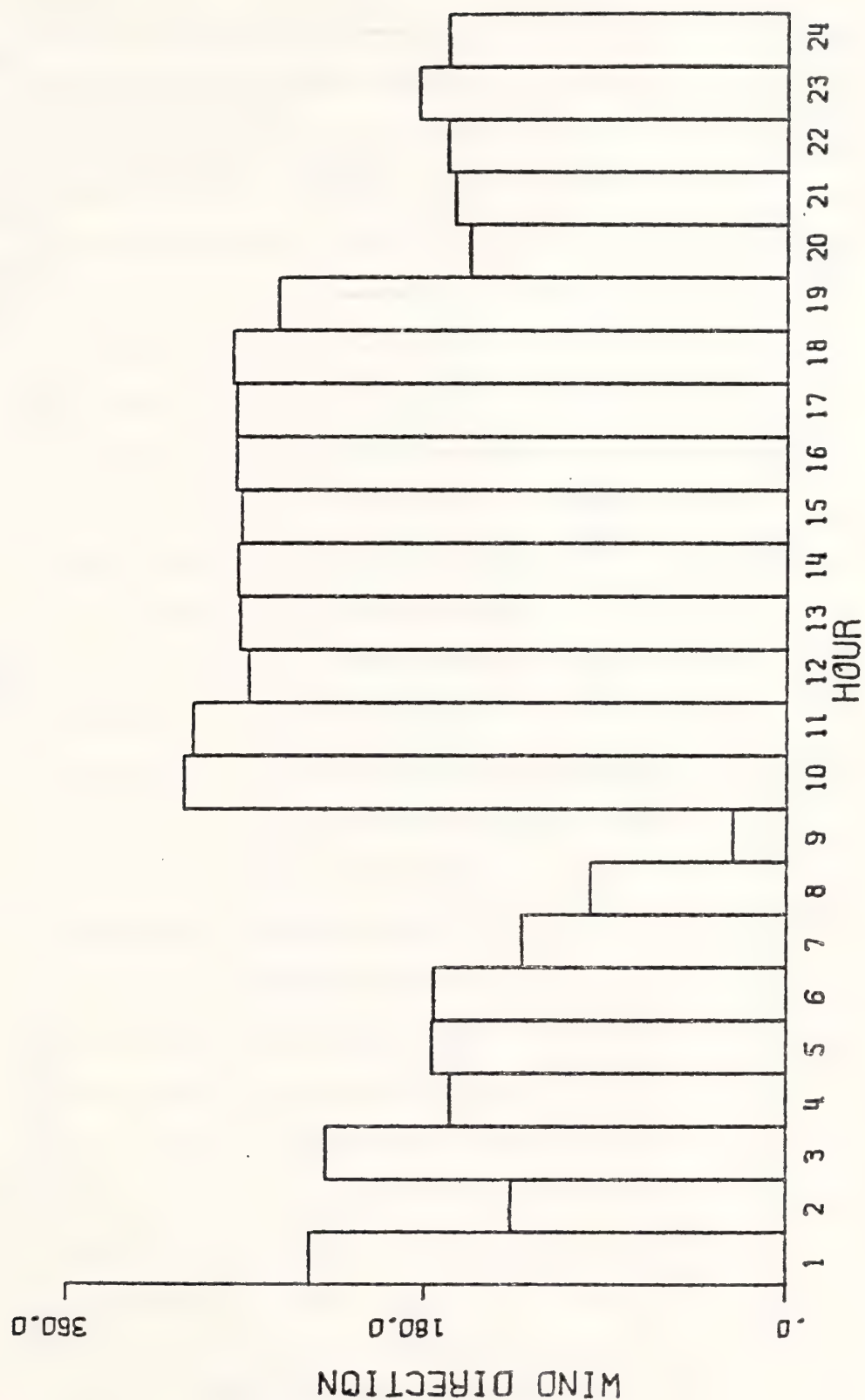
DIURNAL VARIATION OF WIND SPEED AT 200 FEET (MPH)  
SITE - 23



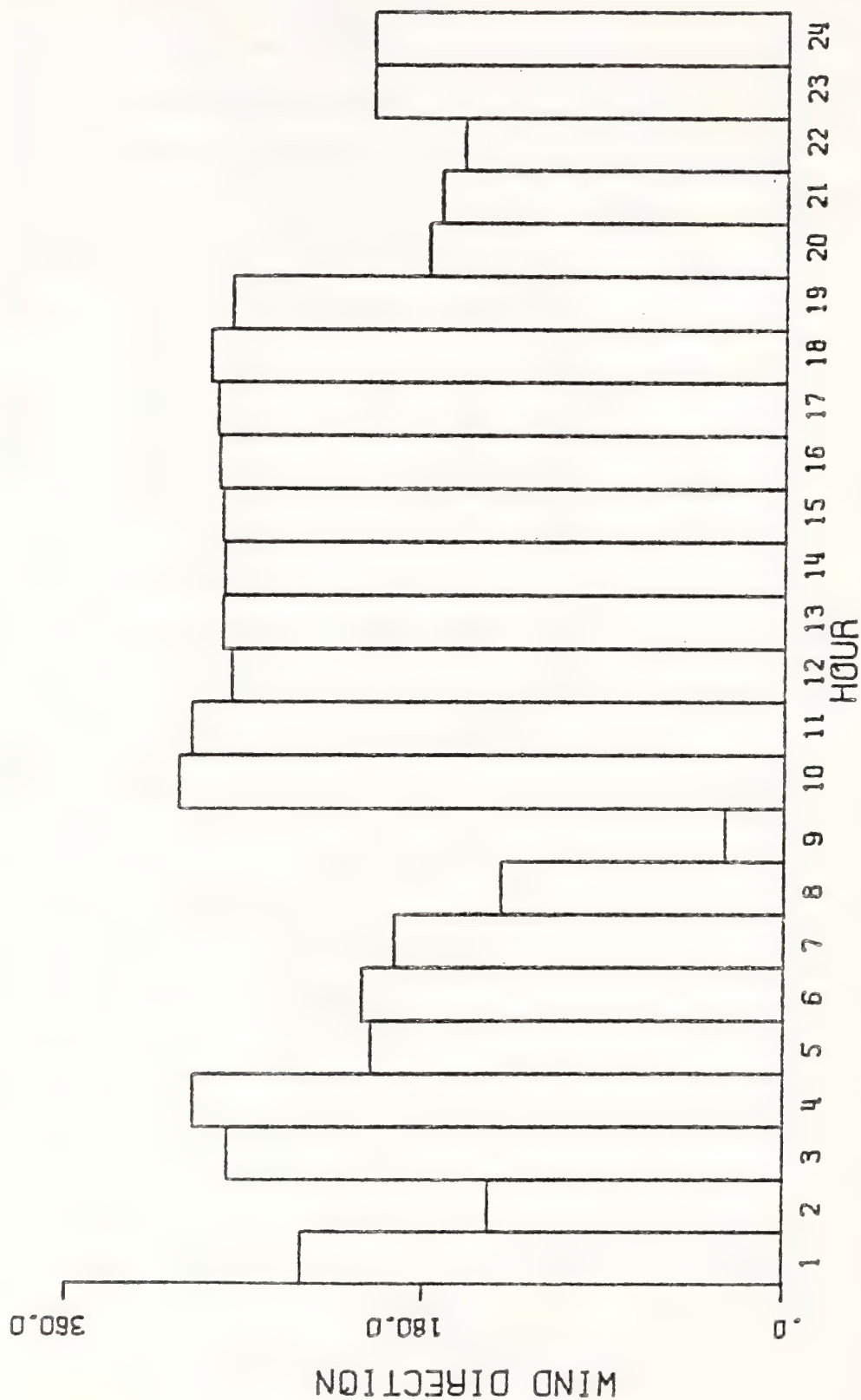
DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET  
SITE - 23



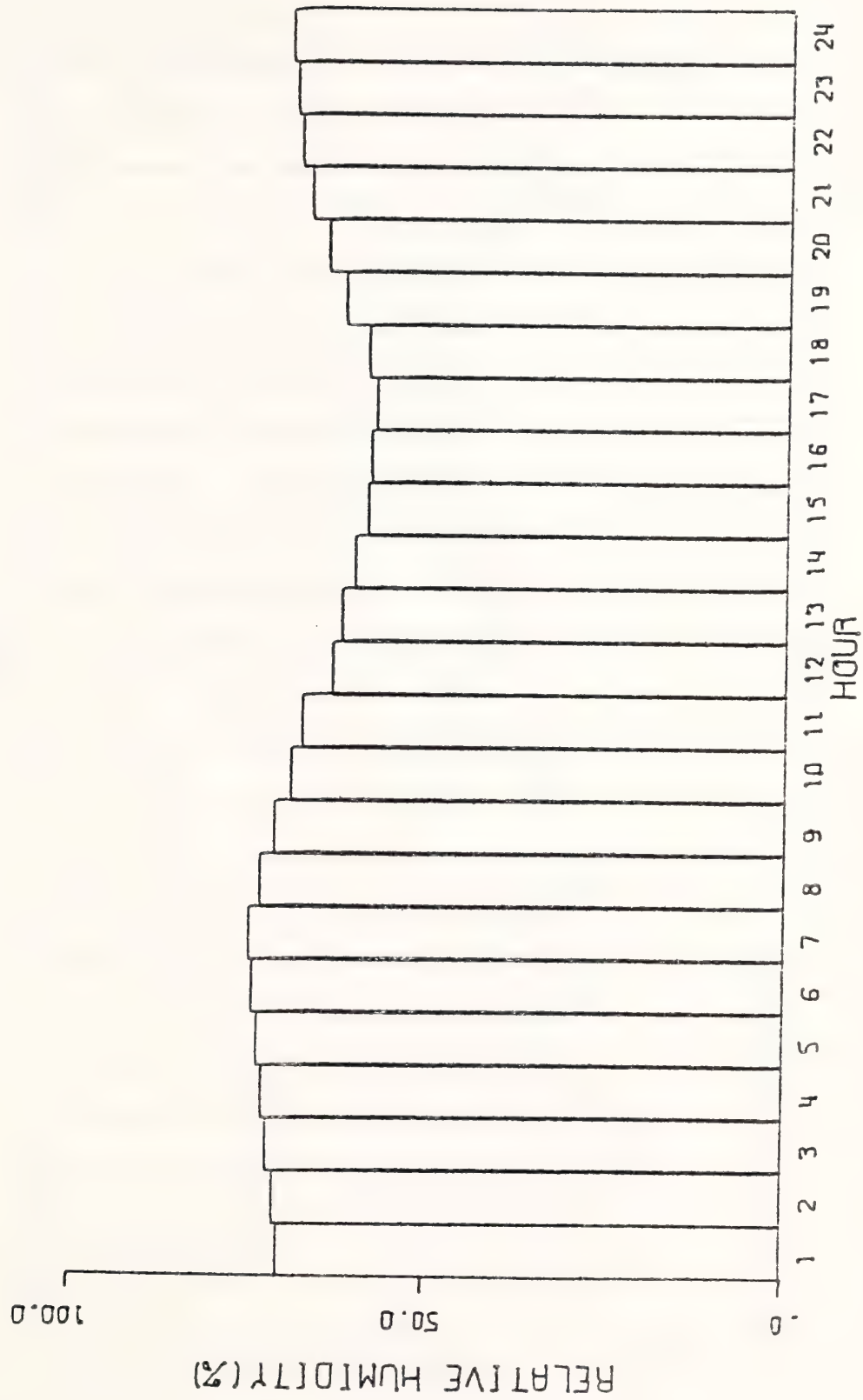




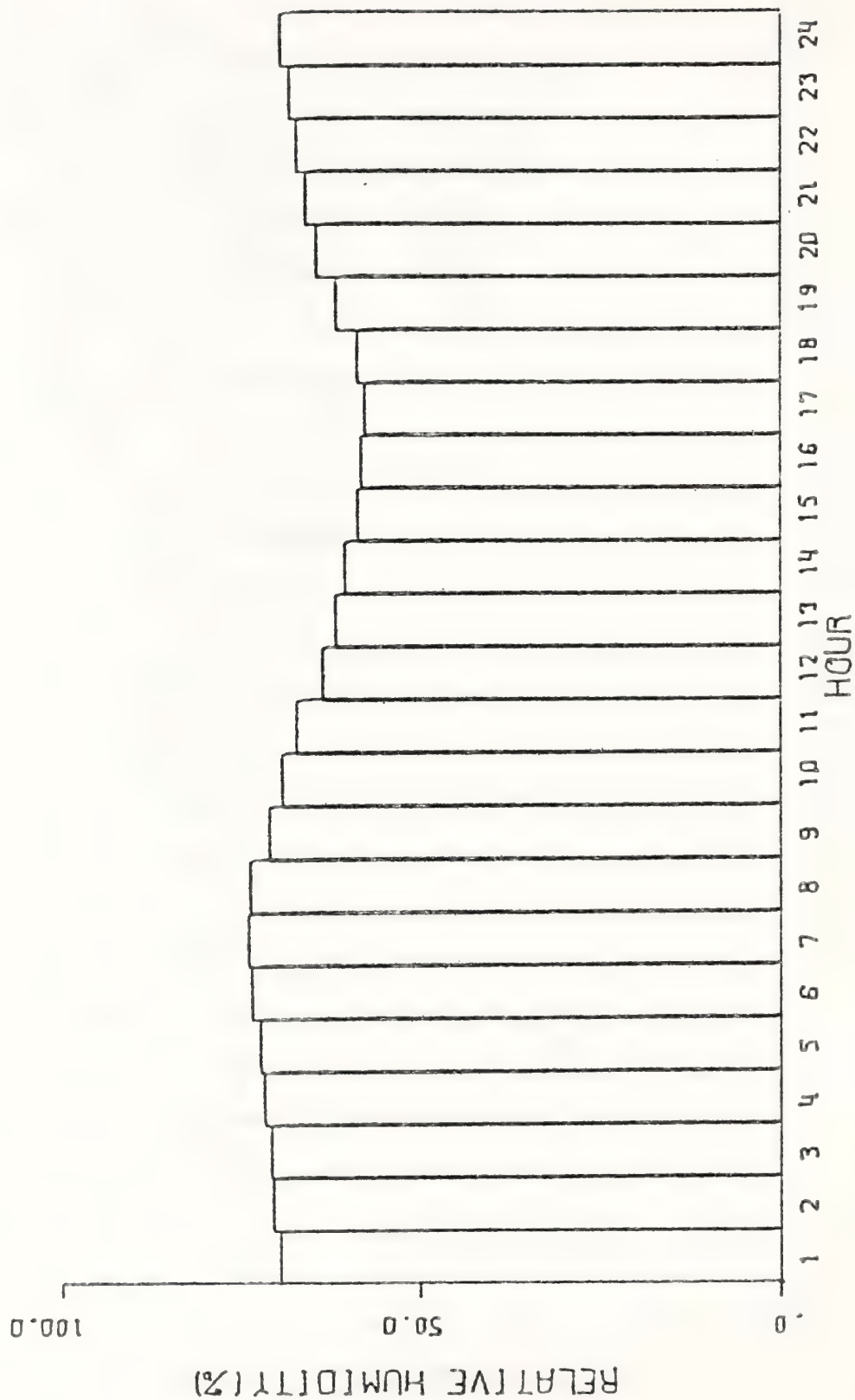
DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET  
SITE - 23



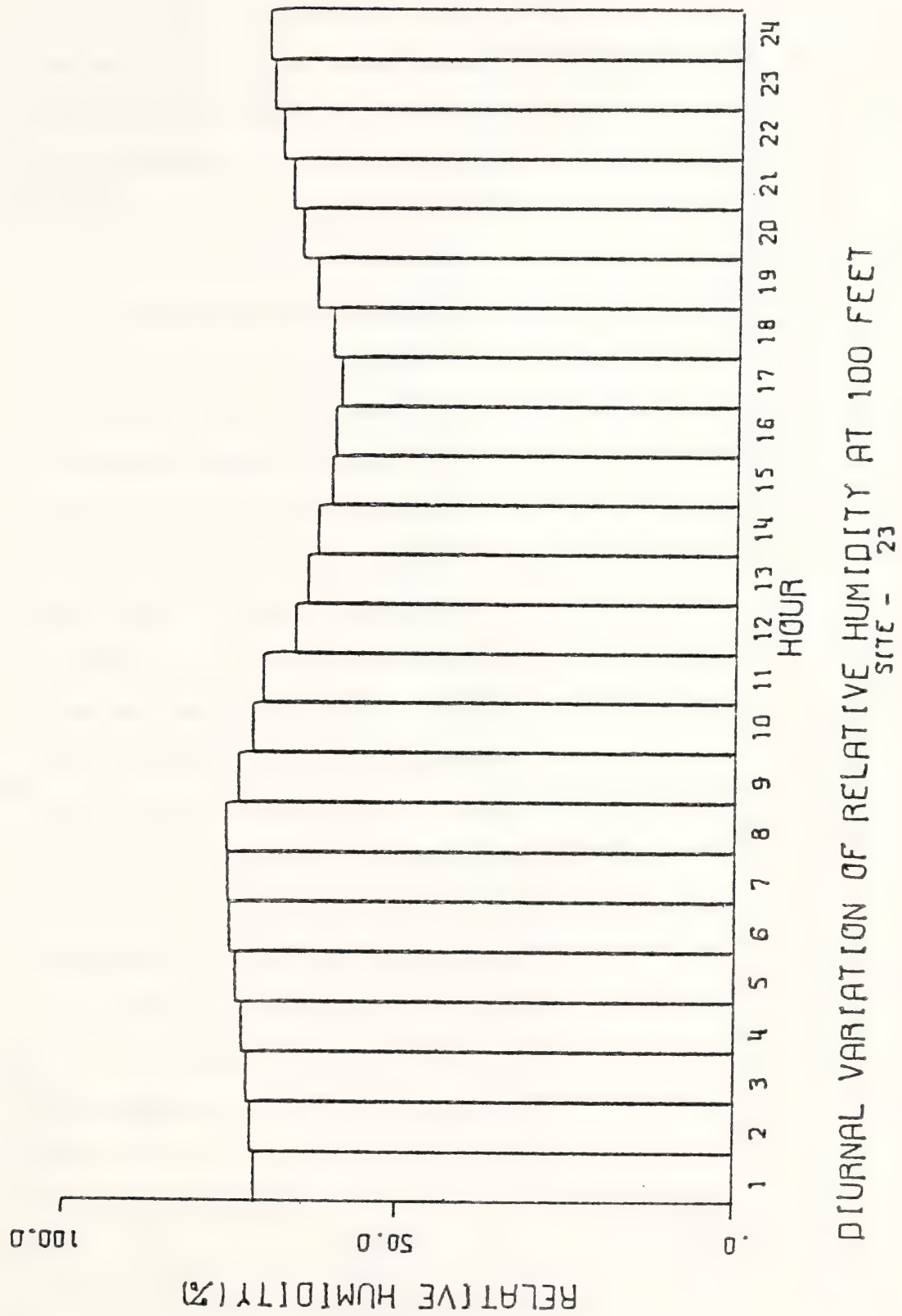
DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET  
SITE - 23



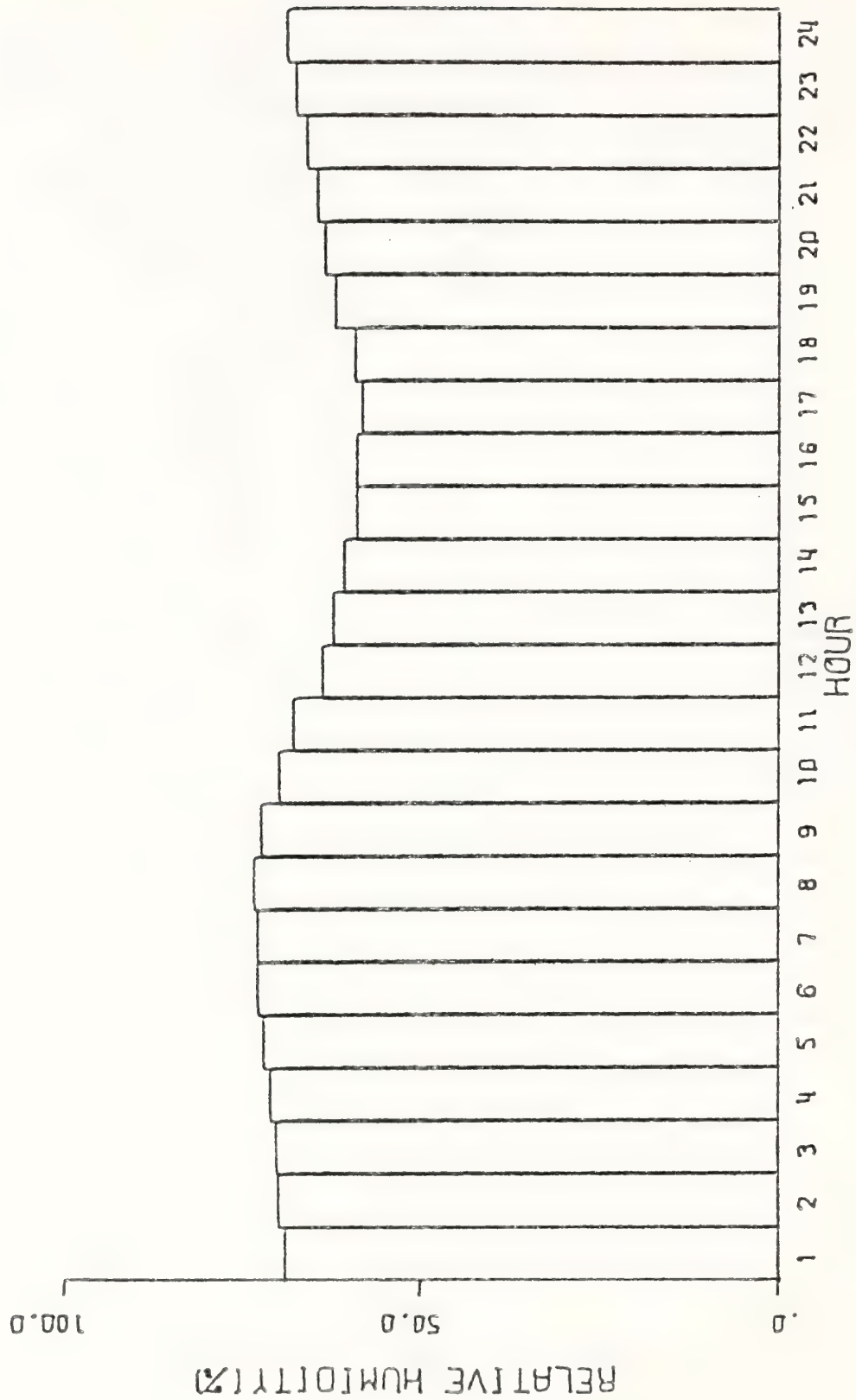
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 8 FEET  
SITE - 23



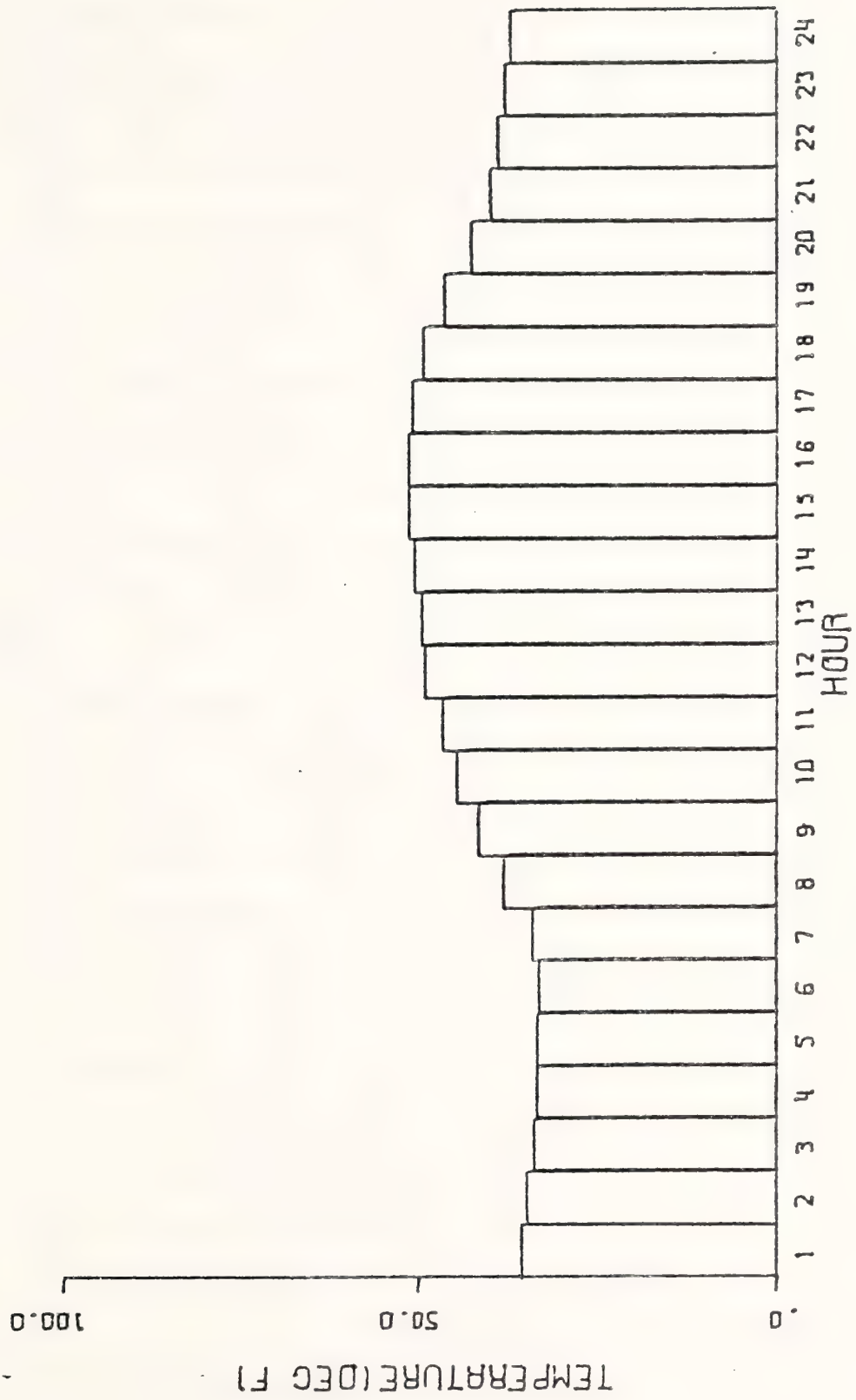
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 30 FEET  
SITE - 23



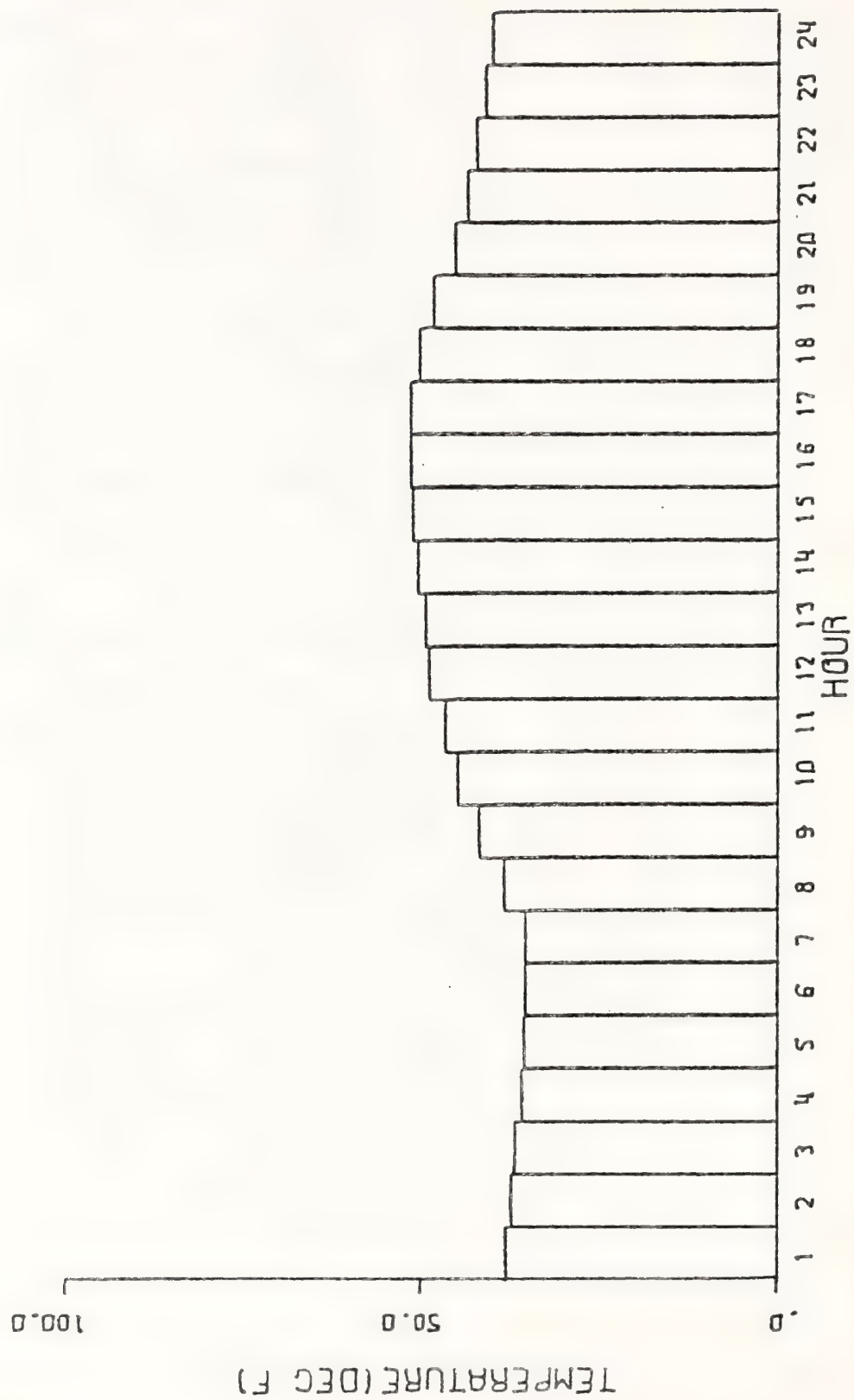




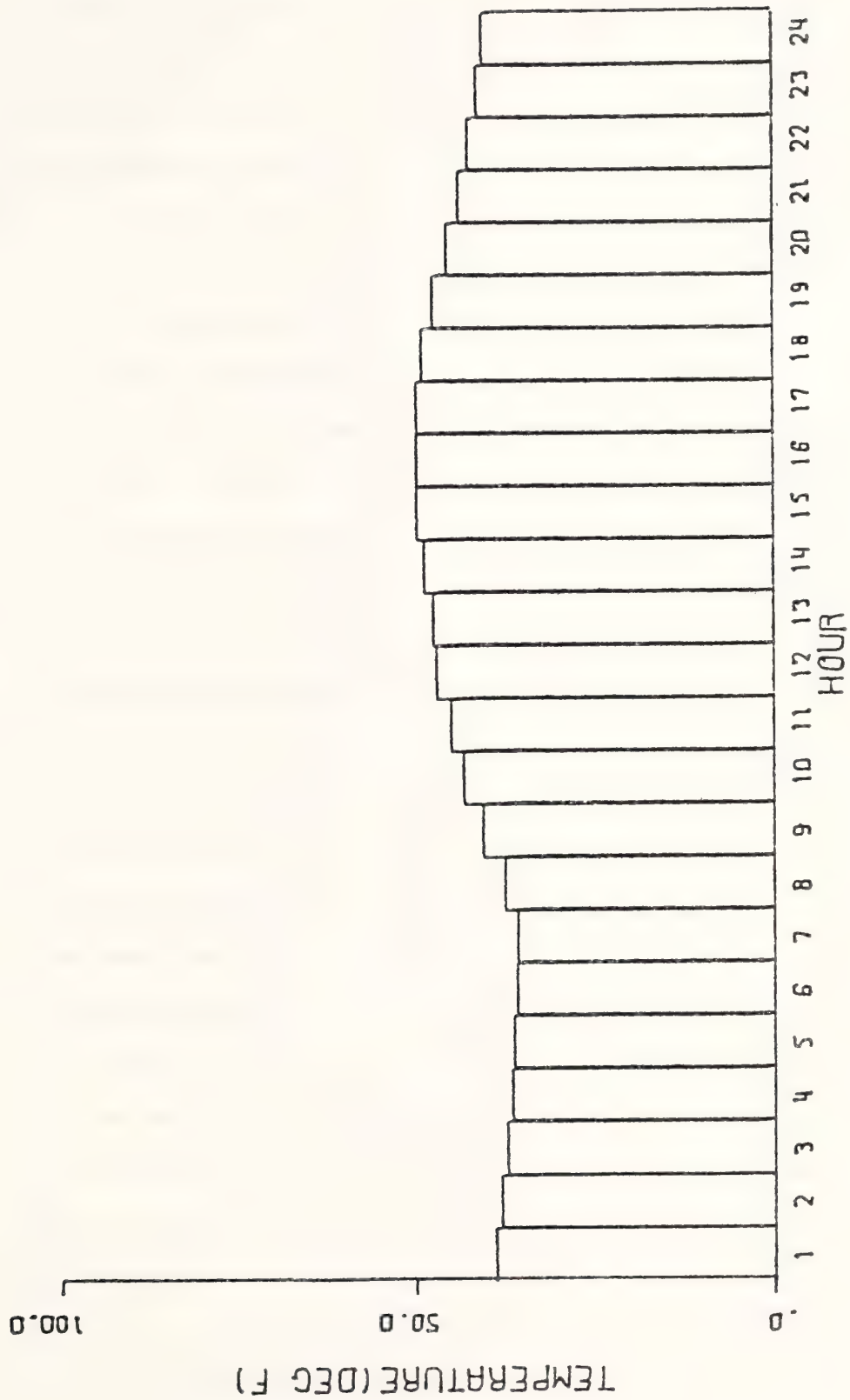
DIURNAL VARIATION OF RELATIVE HUMIDITY AT 200 FEET  
SITE - 23



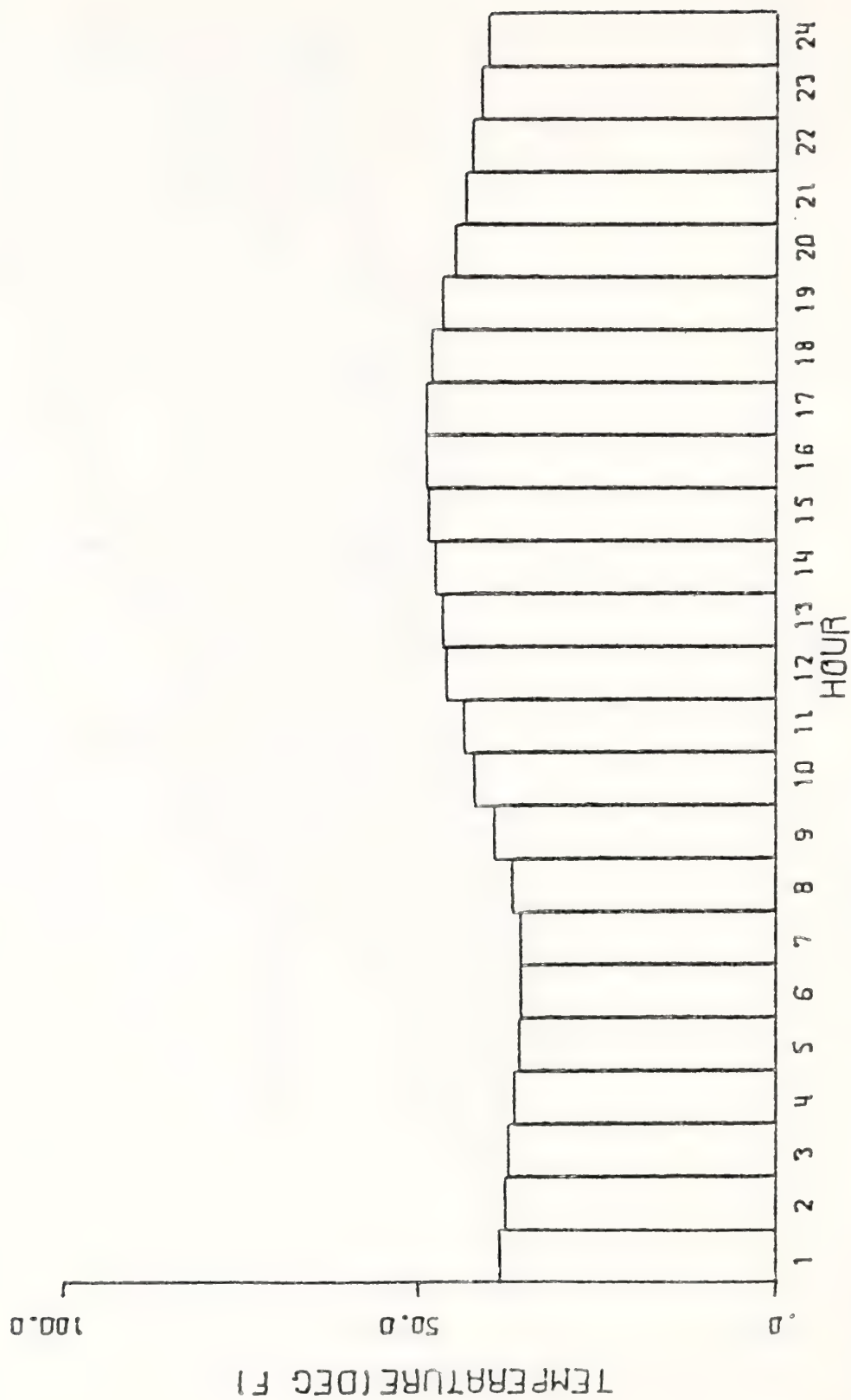
DIURNAL VARIATION OF TEMPERATURE AT 8 FEET (DEC F)  
SITE - 23



DIURNAL VARIATION OF TEMPERATURE AT 30 FEET (DEG F)  
SITE - 23

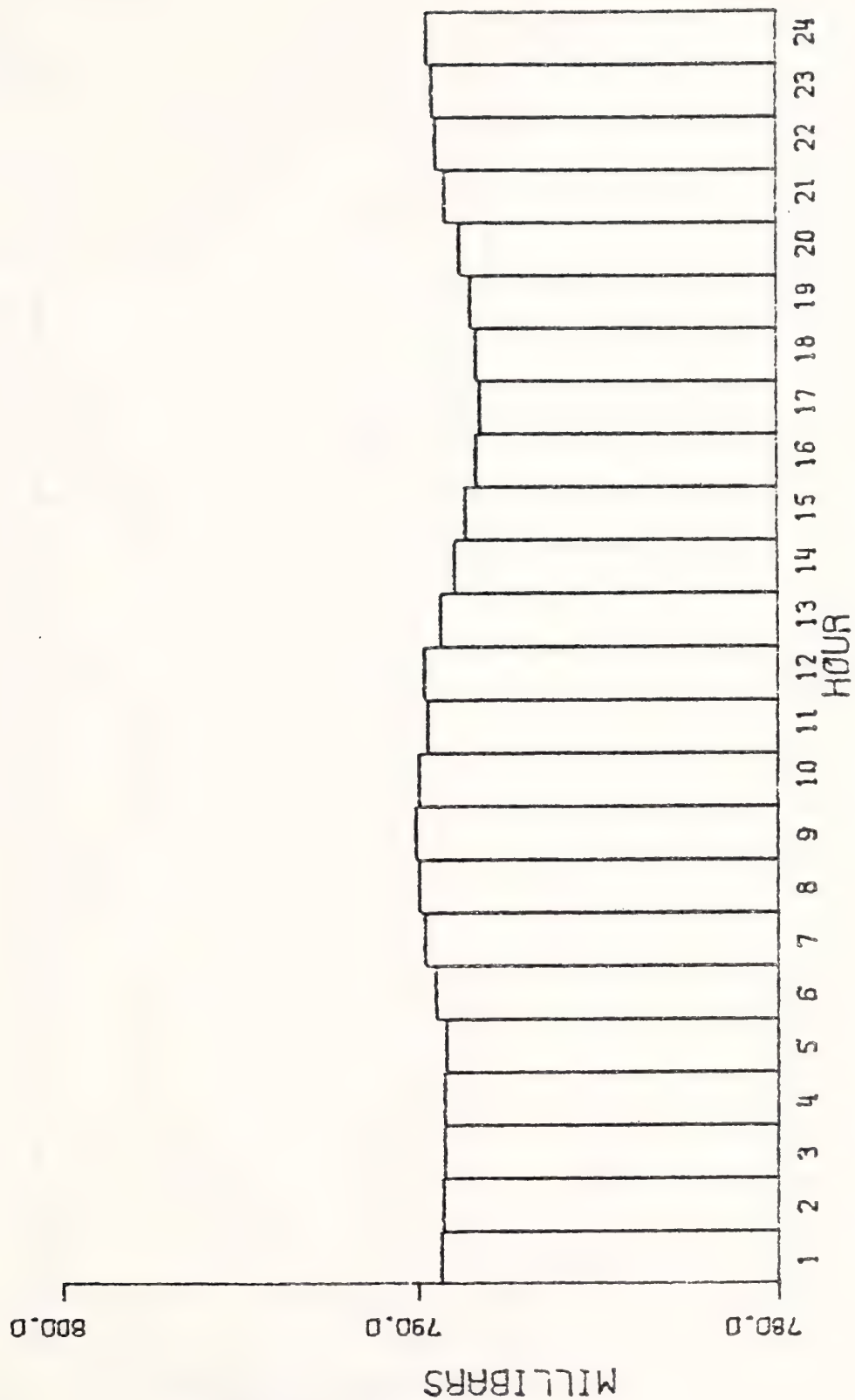


DIURNAL VARIATION OF TEMPERATURE AT 100 FEET (DEG F)  
SITE - 23

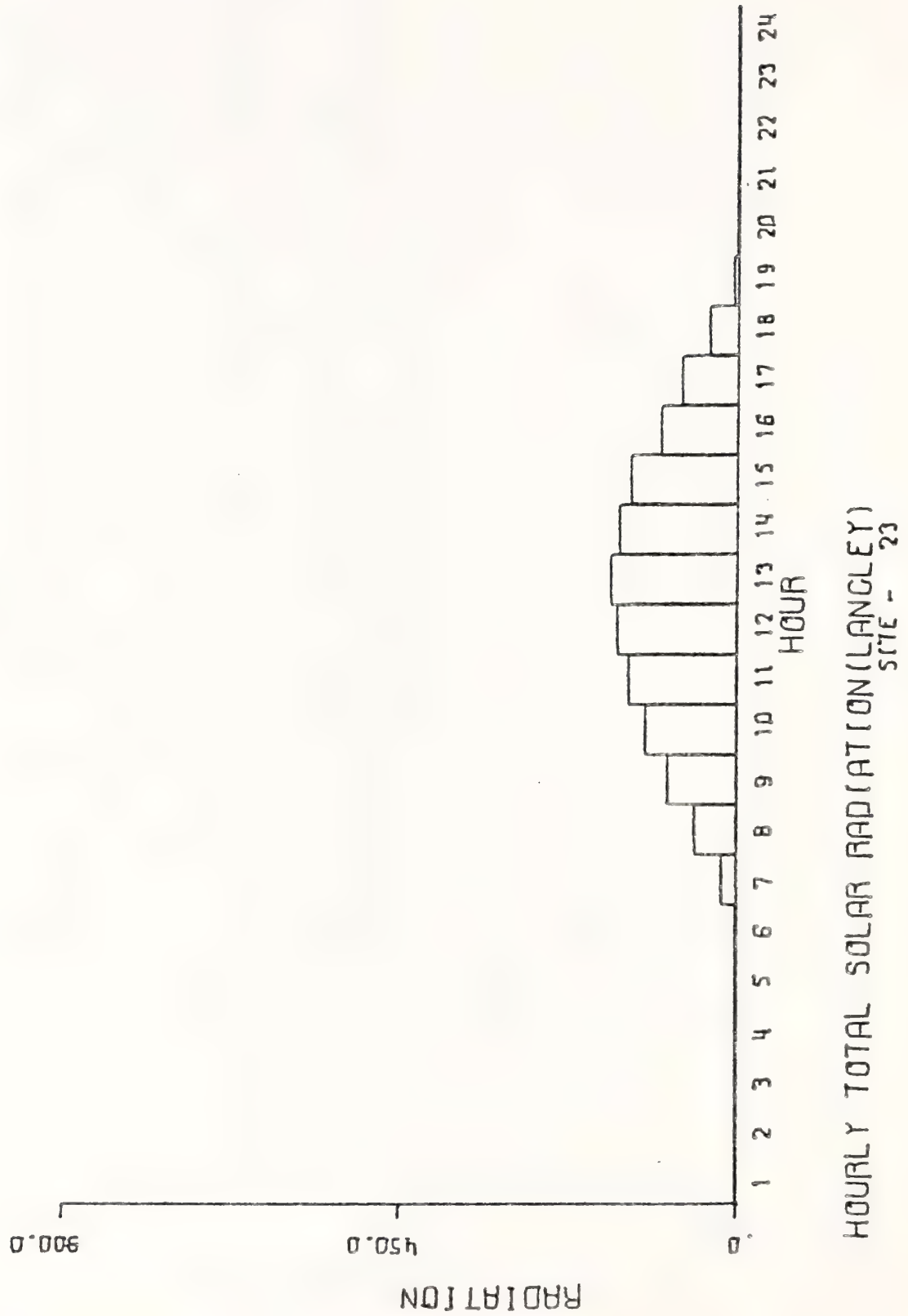


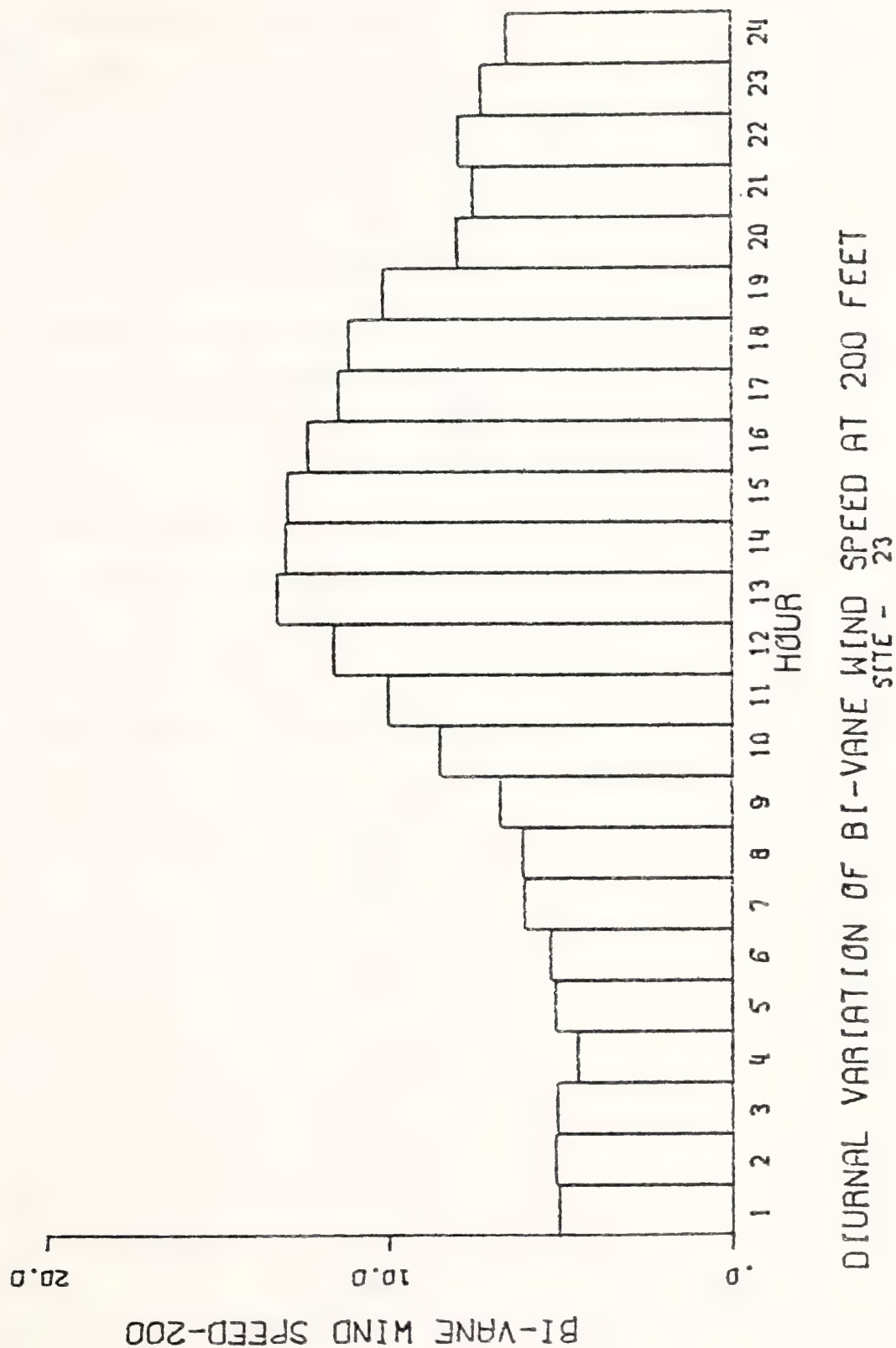
DIURNAL VARIATION OF TEMPERATURE AT 200 FEET (DEG F)  
SITE - 23

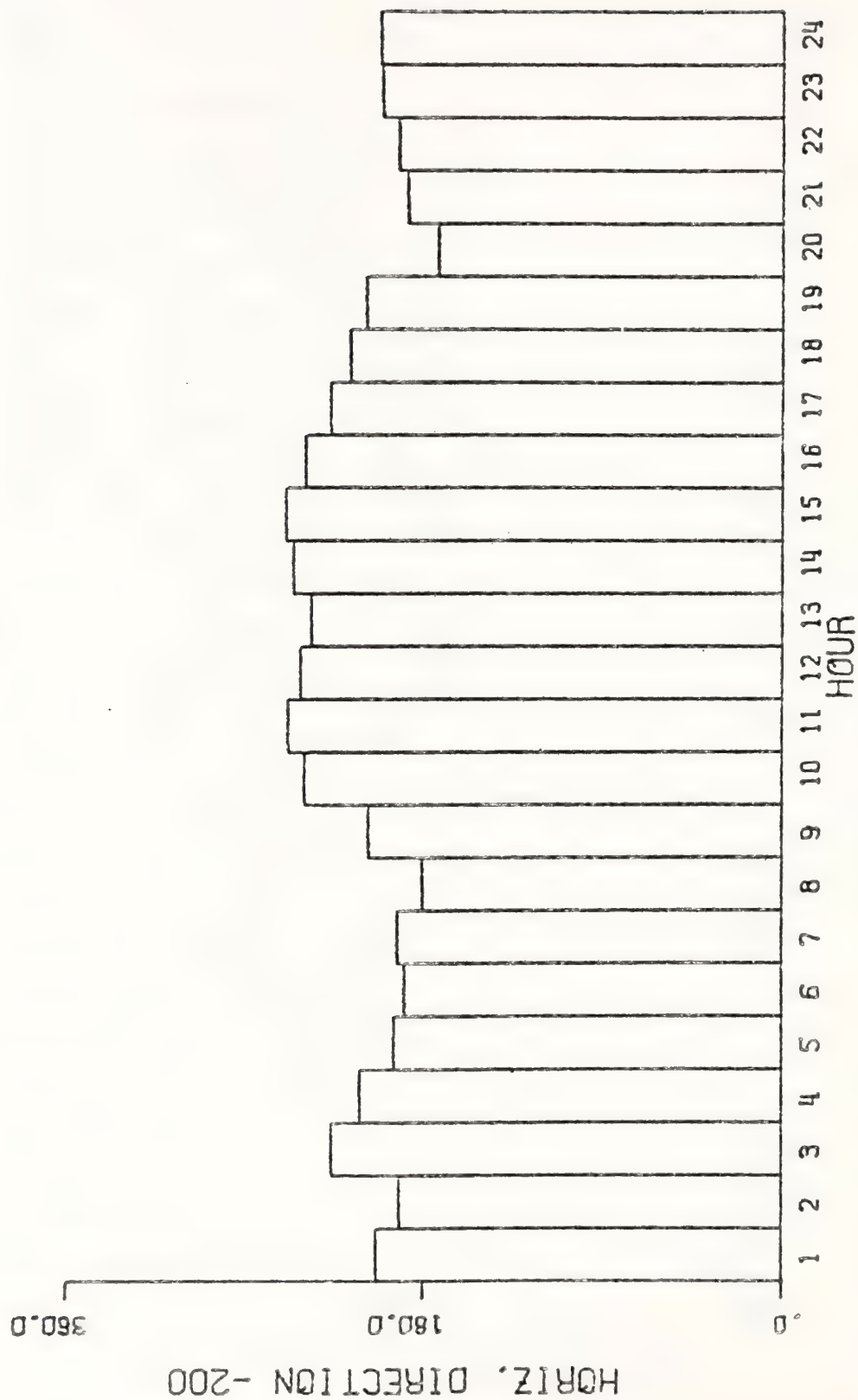




DIURNAL VARIATION OF BAROMETRIC PRESSURE  
SITE - 23







DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET  
SITE - 23

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
 STABILITY CLASS DETERMINATION USING PYRANOMETER RECORDING  
 PERIOD( 4/ 1/77 TO 4/30/77)

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 4/ 1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 2 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 3 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 4 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 5 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 6 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 7 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 8 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 9 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/10 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/11 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/12 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/13 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/14 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/15 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/16 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/17 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/18 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/19 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/20 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/21 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/22 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/23 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/24 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/25 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/26 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/27 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/28 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/29 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/30 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

\* NON-ZERO PYRANOMETER READING BUT STABILITY CLASS UNCERTAIN SINCE NIGHTTIME NET RADIATION INDEX IS REQUIRED



C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 4/ 1/77 TO 4/30/77)

| 4/1 | 4/2 | 4/3 | 4/4 | 4/5 | 4/6 | 4/7 | 4/8 | 4/9 | 4/10 | 4/11 | 4/12 | 4/13 | 4/14 | 4/15 | 4/16 | 4/17 | 4/18 | 4/19 | 4/20 | 4/21 | 4/22 | 4/23 | 4/24 | 4/25 | 4/26 | 4/27 | 4/28 | 4/29 | 4/30 |   |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|---|
| E   | D   | D   | F   | E   | F   | F   | F   | F   | D    | F    | D    | B    | F    | F    | D    | A    | F    | E    | B    | D    | F    | F    | F    | F    | F    | F    | F    | E    | E    | E |   |
| E   | D   | D   | F   | E   | F   | F   | F   | F   | E    | E    | E    | B    | E    | F    | D    | A    | F    | E    | B    | E    | F    | F    | F    | F    | F    | F    | F    | F    | F    | F |   |
| E   | E   | C   | E   | D   | F   | F   | F   | F   | E    | F    | F    | D    | E    | F    | D    | A    | F    | E    | B    | E    | F    | F    | F    | F    | F    | F    | F    | F    | F    | F |   |
| D   | E   | D   | E   | E   | F   | F   | F   | F   | F    | F    | F    | B    | D    | F    | C    | A    | F    | E    | B    | E    | F    | F    | F    | F    | F    | F    | F    | F    | F    | F |   |
| B   | D   | D   | E   | E   | F   | F   | F   | F   | E    | E    | F    | D    | E    | F    | B    | A    | E    | F    | B    | D    | F    | F    | F    | F    | F    | F    | F    | F    | F    | F |   |
| A   | E   | E   | E   | E   | F   | F   | F   | F   | E    | E    | F    | D    | E    | E    | B    | A    | F    | F    | B    | D    | F    | F    | F    | F    | F    | F    | F    | F    | F    | F |   |
| B   | C   | D   | F   | E   | F   | F   | F   | F   | E    | E    | E    | D    | D    | E    | B    | A    | F    | E    | B    | D    | F    | F    | F    | F    | F    | F    | F    | F    | F    | F |   |
| A   | A   | B   | E   | D   | D   | A   | E   | B   | B    | A    | D    | B    | B    | B    | A    | D    | A    | B    | B    | D    | A    | A    | A    | D    | A    | D    | B    | D    | A    | A |   |
| A   | B   | B   | A   | A   | A   | A   | B   | C   | D    | B    | A    | A    | B    | B    | A    | A    | A    | B    | B    | A    | A    | A    | A    | A    | A    | A    | B    | B    | B    | A | B |
| B   | B   | B   | A   | B   | A   | A   | B   | D   | D    | B    | B    | A    | C    | B    | A    | A    | A    | B    | B    | A    | A    | B    | A    | B    | B    | B    | A    | A    | B    | B |   |
| B   | B   | C   | B   | A   | A   | B   | D   | D   | D    | B    | B    | B    | D    | B    | B    | A    | B    | B    | B    | B    | B    | B    | B    | B    | B    | B    | D    | C    | D    | B | B |
| C   | B   | D   | B   | A   | B   | B   | C   | D   | D    | C    | B    | D    | D    | B    | B    | B    | D    | B    | C    | B    | B    | B    | B    | B    | B    | B    | C    | D    | B    | C | B |
| B   | B   | D   | B   | B   | B   | A   | D   | D   | C    | D    | B    | C    | D    | B    | B    | B    | C    | B    | C    | A    | B    | B    | C    | B    | C    | B    | C    | B    | C    | B | C |
| B   | B   | C   | B   | B   | B   | B   | D   | D   | C    | D    | A    | B    | D    | B    | B    | B    | D    | A    | C    | A    | B    | C    | C    | B    | B    | D    | B    | B    | C    | B | C |
| C   | B   | B   | A   | A   | B   | B   | C   | D   | B    | D    | A    | B    | C    | B    | B    | B    | D    | A    | C    | A    | B    | B    | B    | B    | B    | B    | C    | B    | A    | B | B |
| D   | B   | D   | B   | A   | E   | D   | D   | C   | D    | A    | B    | D    | B    | B    | A    | C    | D    | D    | D    | B    | C    | B    | B    | B    | A    | B    | B    | B    | B    | B | B |
| D   | C   | D   | D   | E   | F   | F   | F   | F   | E    | F    | D    | E    | F    | D    | A    | D    | E    | F    | C    | D    | E    | E    | D    | A    | C    | D    | E    | D    | B    | D | E |
| D   | B   | F   | D   | F   | F   | F   | F   | F   | F    | F    | F    | E    | D    | B    | E    | E    | C    | E    | F    | F    | E    | D    | E    | F    | F    | E    | C    | E    | F    | F | F |
| D   | C   | D   | D   | F   | F   | F   | F   | F   | F    | F    | F    | E    | D    | B    | F    | B    | C    | E    | F    | F    | F    | F    | F    | F    | F    | F    | E    | D    | F    | F | F |
| D   | D   | E   | E   | E   | F   | F   | F   | F   | F    | F    | F    | D    | E    | F    | E    | A    | F    | D    | C    | D    | E    | F    | F    | F    | F    | F    | F    | F    | F    | F | F |
| C   | E   | F   | F   | F   | F   | F   | F   | F   | F    | F    | F    | D    | E    | D    | B    | F    | F    | D    | A    | F    | C    | C    | C    | C    | F    | F    | F    | F    | F    | F | F |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
 PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
 A STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6   | 7 | 8   | 9   | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|-----|---|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 4/ 1 |   |   |   |   |   | 3   |   | 4   | 3   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 2 |   |   |   |   |   | ESE |   | ESE | ESE |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 3 |   |   |   |   |   |     |   | 4   |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 4 |   |   |   |   |   |     |   | 4   |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 5 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 6 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 7 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 8 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 9 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/10 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/11 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/12 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/13 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/14 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/15 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/16 |   |   |   |   |   |     |   |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 4/ 1/77 TO 4/30/77)

# HOURLY WIND AND DIRECTION A STABILITY CLASS

| Date | Time | Wind | Force | Direction | Remarks |
|------|------|------|-------|-----------|---------|
| 4/17 | 2    | NNE  | 3     | NNW       | NNE     |
| 4/18 | 1    | NNW  | 2     | N         | NNE     |
| 4/19 | 4    | NNW  | 2     | N         | NNE     |
| 4/20 | 4    | NNW  | 2     | N         | NNE     |
| 4/21 | 2    | N    | 2     | NE        | NW      |
| 4/22 | 1    | NE   | 2     | N         | NNW     |
| 4/23 | 2    | N    | 3     | NW        | NW      |
| 4/24 | 1    | NNW  | 2     | NW        | NW      |
| 4/25 | 3    | ESE  | 3     | NW        | NW      |
| 4/26 | 3    | NW   | 3     | NW        | NW      |
| 4/27 | 3    | NW   | 3     | NW        | NW      |
| 4/28 | 3    | S    | 3     | NW        | NW      |
| 4/29 | 3    | NNE  | 3     | N         | N       |
| 4/30 | 3    | E    | 3     | N         | N       |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
B STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19 | 20 | 21  | 22 | 23 | 24 |
|------|---|---|---|---|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|----|----|----|
| 4/ 1 |   |   |   |   | 4 |   | 6   |     | 6   | SW  | 10  | 9   |     | 10  | 6   | 9   | 9   |     |    |    |     |    |    |    |
| 4/ 2 |   |   |   |   | E |   | ESE |     | 8   | SW  | 7   | SW  |     | S   | S   | SW  | WSW |     |    |    |     |    |    |    |
| 4/ 3 |   |   |   |   |   |   |     | SSE | 3   | 8   | WSW | 10  | 5   | 7   | 8   | 7   | 6   | 8   | 9  |    | 3   |    |    |    |
| 4/ 4 |   |   |   |   |   |   |     | WNW | 6   | NW  | 5   | 9   | WNW | W   | NW  | WNW | W   | WNW | NW |    | WNW |    |    |    |
| 4/ 5 |   |   |   |   |   |   |     |     |     | 6   | NW  | NNW | NNW | NNW | 8   | NNW | NE  |     | 9  |    |     |    |    |    |
| 4/ 6 |   |   |   |   |   |   |     |     |     | N   |     | 5   | 6   | 7   | 6   | 7   | 6   | 7   |    |    |     |    |    |    |
| 4/ 7 |   |   |   |   |   |   |     |     |     |     | 4   | SE  | SW  | SW  | WSW | SW  | SSW | SSW |    |    |     |    |    |    |
| 4/ 8 |   |   |   |   |   |   |     |     | 7   | 11  | NNW | SW  | WSW | WSW | SSW |     | NW  | WSW |    |    |     |    |    |    |
| 4/ 9 |   |   |   |   |   |   |     |     | SE  | S   |     |     |     | 10  | SSW |     |     |     |    |    |     |    |    |    |
| 4/10 |   |   |   |   |   |   |     | 12  | SE  |     |     |     |     |     |     |     |     |     |    |    |     |    |    |    |
| 4/11 |   |   |   |   |   |   |     | 11  | SSW |     |     |     |     |     |     |     |     |     |    |    |     |    |    |    |
| 4/12 |   |   |   |   |   |   |     |     | 8   | 10  | W   | ESE | ESE |     | 5   | 4   |     |     |    |    |     |    |    |    |
| 4/13 |   |   |   |   |   |   |     |     | 9   | 8   | N   | NNW | NNW | NNW | NNW | NNW | 8   | 4   | 3  |    |     |    |    |    |
| 4/14 |   |   |   |   |   |   |     |     | 7   |     | 6   | 11  | SW  |     |     |     | WSW | W   |    |    |     |    |    |    |
| 4/15 |   |   |   |   |   |   |     |     | 5   |     | 6   | 5   | 5   | 5   | 5   | 8   | 8   | 8   | 6  |    | 5   |    |    |    |
| 4/16 |   |   |   |   |   |   |     |     | ESE | ENE | 7   | NW  | NNW | NNW | NNW | NNW | NNW | NNW | NW |    | NW  |    |    |    |





C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

|      | 1 | 2 | 3       | 4 | 5 | 6 | 7 | 8       | 9 | 10        | 11        | 12        | 13        | 14 | 15 | 16       | 17       | 18        | 19     | 20       | 21 | 22     | 23        | 24       |
|------|---|---|---------|---|---|---|---|---------|---|-----------|-----------|-----------|-----------|----|----|----------|----------|-----------|--------|----------|----|--------|-----------|----------|
| 4/ 1 |   |   |         |   |   |   |   |         |   |           |           |           | 13<br>SW  |    |    |          |          | 11<br>S   |        |          |    |        |           |          |
| 4/ 2 |   |   |         |   |   |   | 9 |         |   |           |           |           |           |    |    |          |          |           |        | 5<br>WNW |    | 2<br>W |           | 5<br>SSE |
| 4/ 3 |   |   |         |   |   |   | 8 |         |   |           | 10<br>NNW | 13<br>NNW |           |    |    |          | 11<br>N  |           |        |          |    |        |           |          |
| 4/ 4 |   |   | 2<br>NW |   |   |   |   |         |   |           |           |           |           |    |    |          |          |           |        |          |    |        |           |          |
| 4/ 5 |   |   |         |   |   |   |   |         |   |           |           |           |           |    |    |          |          |           |        |          |    |        |           |          |
| 4/ 6 |   |   |         |   |   |   |   |         |   |           |           |           |           |    |    |          |          |           |        |          |    |        |           |          |
| 4/ 7 |   |   |         |   |   |   |   |         |   |           |           |           |           |    |    |          |          |           |        |          |    |        |           |          |
| 4/ 8 |   |   |         |   |   |   |   |         |   |           |           |           | 12<br>SSW |    |    |          |          | 11<br>SSW |        |          |    |        |           |          |
| 4/ 9 |   |   |         |   |   |   |   | 12<br>S |   |           |           |           |           |    |    |          |          |           |        |          |    |        |           |          |
| 4/10 |   |   |         |   |   |   |   |         |   |           |           |           |           |    |    | 12<br>SW | 12<br>SW |           | 7<br>W |          |    |        |           |          |
| 4/11 |   |   |         |   |   |   |   |         |   |           |           |           | 12<br>S   |    |    |          |          |           |        |          |    |        |           |          |
| 4/12 |   |   |         |   |   |   |   |         |   |           |           |           |           |    |    |          |          |           |        |          |    |        |           |          |
| 4/13 |   |   |         |   |   |   |   |         |   |           |           |           |           |    |    | 12<br>SW |          |           |        |          |    |        |           |          |
| 4/14 |   |   |         |   |   |   |   |         |   | 11<br>SSE |           |           |           |    |    |          |          |           |        |          |    |        | 12<br>WSW |          |
| 4/15 |   |   |         |   |   |   |   |         |   |           |           |           |           |    |    |          |          |           |        |          |    |        |           |          |
| 4/16 |   |   |         |   |   |   |   |         |   |           |           |           |           |    |    |          |          |           |        |          |    |        |           |          |

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

[illegible]

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
 PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
 D STABILITY CLASS

|      | 1         | 2        | 3        | 4        | 5        | 6        | 7        | 8         | 9         | 10        | 11        | 12        | 13        | 14        | 15        | 16        | 17        | 18        | 19        | 20        | 21       | 22       | 23       | 24      |
|------|-----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|---------|
| 4/ 1 |           |          |          | 4<br>ENE |          |          |          |           |           |           |           |           |           |           |           |           |           |           | 17<br>S   | 10<br>SSE | 3<br>ESE | 4<br>SSE | 6<br>SSE |         |
| 4/ 2 | 3<br>ESE  | 3<br>SE  |          |          | 2<br>SSE |          |          |           |           |           |           |           |           |           |           |           |           |           | 8<br>S    | 2<br>NNE  |          |          | 5<br>NW  |         |
| 4/ 3 | 1<br>NNW  | 3<br>NNW |          | 2<br>NNW | 3<br>NNW |          | 4<br>NNW |           |           |           |           |           | 16<br>N   | 16<br>N   | 13<br>N   | 14<br>N   |           |           | 7<br>N    | 2<br>NNE  | 3<br>ESE | 4<br>ESE |          |         |
| 4/ 4 |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |         |
| 4/ 5 |           |          | 3<br>SW  |          |          |          |          | 1<br>SSE  |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |         |
| 4/ 6 |           |          |          |          |          |          |          | 2<br>ESE  |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |         |
| 4/ 7 |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           | 4<br>SW   |           |          |          |          |         |
| 4/ 8 |           |          |          |          |          |          |          |           |           |           | 15<br>SSW | 14<br>SSW | 13<br>SSW | 13<br>SSW | 13<br>SSW | 14<br>SSW | 14<br>SSW | 15<br>SSW | 8<br>SSW  |           |          |          |          | 16<br>S |
| 4/ 9 | 15<br>SSE |          |          |          |          |          |          | 16<br>S   |           | 16<br>SSW | 19<br>SSW | 21<br>SSW | 22<br>SSW | 21<br>SSW | 20<br>SSW | 20<br>SSW | 16<br>SSW | 15<br>SSW | 9<br>SSW  |           |          |          |          |         |
| 4/10 |           |          |          |          |          |          |          | 16<br>SSW | 17<br>SSW | 17<br>SSW | 16<br>SSW | 18<br>SSW | 18<br>SSW | 18<br>SSW | 15<br>SSW | 15<br>SSW | 16<br>SSW | 18<br>SSW | 9<br>SSW  |           |          |          |          | 5<br>W  |
| 4/11 | 4<br>W    |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           | 12<br>SSW | 6<br>S    |          |          | 6<br>W   |         |
| 4/12 |           |          | 2<br>WSW |          | 4<br>WSW | 4<br>WSW | 3<br>W   | 3<br>NW   |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |         |
| 4/13 |           |          |          | 1<br>N   |          |          | 5<br>NNW |           |           |           |           |           | 17<br>SW  | 19<br>SW  | 15<br>SW  |           |           |           |           |           |          |          |          |         |
| 4/14 |           |          |          |          |          |          |          |           | 14<br>SSW | 15<br>SSW | 15<br>SSW | 16<br>SSW | 16<br>SSW | 13<br>SW  | 13<br>SW  | 14<br>SW  |           |           | 19<br>NW  | 17<br>NW  | 13<br>NW | 9<br>NW  |          | 5<br>W  |
| 4/15 | 2<br>NNW  | 3<br>NNW | 5<br>W   |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |         |
| 4/16 |           |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |          |          |          |         |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 4/ 1/77 TO 4/30/77)

### HOURLY WIND AND DIRECTION D STABILITY CLASS

[illegible]

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
E STABILITY CLASS

|      | 1 | 2 | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
|------|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 4/ 1 | 3 | 3 | 3   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/ 2 | 3 | W | WNW |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/ 3 |   |   | SSE | SSE |     | SE  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/ 4 |   |   |     | 8   |     | 5   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/ 5 | 1 | 3 | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW |
| 4/ 6 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/ 7 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/ 8 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/ 9 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/10 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/11 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/12 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/13 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/14 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/15 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4/16 |   |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |





### HOURLY WIND AND DIRECTION F STABILITY CLASS

|       | 1   | 2  | 3  | 4   | 5  | 6   | 7  | 8  | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19  | 20  | 21  | 22  | 23 | 24  |
|-------|-----|----|----|-----|----|-----|----|----|---|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|----|-----|
| 4/ 1  |     |    |    |     |    |     |    |    |   |    |    |    |    |    |    |    |    |    |     |     |     |     |    |     |
| 4/ 2  |     |    |    |     |    |     |    |    |   |    |    |    |    |    |    |    |    |    |     |     |     |     |    |     |
| 4/ 3  |     |    |    |     |    |     |    |    |   |    |    |    |    |    |    |    |    |    |     |     |     |     |    |     |
| 4/ 4  | 3   | 1  |    |     |    |     | 2  | SE |   |    |    |    |    |    |    |    |    |    |     | 2   | WSW |     |    | 4   |
| 4/ 5  |     |    |    |     |    |     |    |    |   |    |    |    |    |    |    |    |    |    |     |     |     |     |    | 9   |
| 4/ 6  | 2   | 3  | 3  | 4   | 2  | 1   | 2  |    |   |    |    |    |    |    |    |    |    |    |     | 5   | SSE | 5   |    | 0   |
| 4/ 7  | 2   | N  | SE | S   | W  | ENE | SE |    |   |    |    |    |    |    |    |    |    |    | 9   | SSW | 4   | 4   | 5  | SE  |
| 4/ 8  | 2   | S  | SE | 2   | 2  | 1   | 4  |    |   |    |    |    |    |    |    |    |    |    | 5   | SSW | SSW | ESE | SE | SE  |
| 4/ 9  | 0   | E  | 0  | 1   | 2  | 4   | 4  |    |   |    |    |    |    |    |    |    |    |    | SSW | 6   | S   | 4   | 2  | 1   |
| 4/ 10 | 7   |    |    |     |    |     |    |    |   |    |    |    |    |    |    |    |    |    |     |     |     |     |    | SE  |
| 4/ 11 | SSW |    | 3  | 7   |    | 7   |    |    |   |    |    |    |    |    |    |    |    |    | 6   | WSW | 2   | 2   | 6  | W   |
| 4/ 12 |     |    | SE | SE  | 5  | SSW |    |    |   |    |    |    |    |    |    |    |    |    |     |     |     |     |    |     |
| 4/ 13 | 2   |    | 1  | 2   | 5  |     |    |    |   |    |    |    |    |    |    |    |    |    |     |     |     |     |    |     |
| 4/ 14 | SW  |    | SW | W   | SW |     |    |    |   |    |    |    |    |    |    |    |    |    |     |     |     |     |    |     |
| 4/ 15 | 6   | 2  | 4  | 3   | 5  |     |    |    |   |    |    |    |    |    |    |    |    |    |     | 4   | WSW | 5   | 6  | SE  |
| 4/ 16 | SE  | SE | SE | SSE | SE |     |    |    |   |    |    |    |    |    |    |    |    |    |     | SE  |     |     |    | ESE |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
F STABILITY CLASS

|      |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|
| 4/17 | 1   | 2   | 2   | 2   | 1   | 1   | 6   |
|      | N   | E   | NW  | NNE | N   | NE  | SE  |
| 4/18 |     |     |     | 3   | 1   |     |     |
|      |     |     |     | SW  | SW  |     |     |
| 4/19 |     |     |     |     |     |     |     |
| 4/20 |     |     |     |     |     |     |     |
| 4/21 | 1   | 1   | 1   | 2   | 1   | 1   | 1   |
|      | NW  | ENE | NW  | E   | SW  | E   | N   |
| 4/22 | 1   | 3   | 3   | 3   | 1   | 1   | 1   |
|      | ENE | ESE | SSW | SSE | S   | NNW | E   |
| 4/23 | 1   | 1   | 2   | 1   | 0   | 1   | 0   |
|      | NE  | NNE | NNW | N   | S   | WSW | ESE |
| 4/24 | 1   | 1   | 1   | 2   | 1   | 1   | 1   |
|      | NNW | ENE | S   | NNW | W   | ENE | SSW |
| 4/25 | 1   | 1   | 2   | 1   | 0   | 3   | 5   |
|      | ENE | ENE | SSW | N   | NNE | ESE | WSW |
| 4/26 | 5   | 3   | 2   | 3   | 2   | 3   | 3   |
|      | SSE | ESE | ESE | E   | E   | ESE | ESE |
| 4/27 | 6   |     | 2   | 3   | 3   | 3   | 4   |
|      | SSW | NNE | NNE | E   | ENE | E   | SSW |
| 4/28 | 1   | 1   | 1   | 1   | 2   | 4   | 6   |
|      | S   | W   | S   | SE  | SE  | WSW | SE  |
| 4/29 | 3   | 1   | 4   | 3   | 3   | 2   | 9   |
|      | E   | SE  | SE  | SSE | ENE | ENE | SSW |
| 4/30 | 5   | 6   | 6   | 6   | 4   | 4   | 8   |
|      | ESE | SE  | SE  | SSE | ESE | ESE | SSW |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD( 4/ 1/77 TO 4/30/77)

|      | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23   | 24   |
|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|------|------|
| HOUR | 4/1   | 4/2   | 4/3   | 4/4   | 4/5   | 4/6   | 4/7   | 4/8   | 4/9   | 4/10  | 4/11  | 4/12  | 4/13  | 4/14  | 4/15  | 4/16  | 4/17  | 4/18  | 4/19  | 4/20  | 4/21  | 4/22  | 4/23 | 4/24 |
|      | D A A E D F F F F E E D B D F D A F E B D C E E F E E E F D E E | D A A E D F F F F E E D B D F D A F E B D C E E F E E E F D E E | C D A D D F F F F E E E A D F B A F E B D E F F F E F F F E E F | A D A D D F E F F E E F A D E B A F E B D F F F F F F F F E E F | B C A D E E E F F E E F B D E B A E E B D F F F E F F F E E E | A D D D E F F F F E C D E B A E E B C F F F E F F F E F F E E | B B C E D E F F F E E D D D E B A F E B D F F F E F F F D F E E | A A A E B D D E B B A B B B A E A B A D C A A E B D B D A | A B B A A A A B C D B A A B B A A A B B A A A A A B B B A B | B B B A B A A A B D D D B B B D B A A B B B A B B B B A B B | B B C B A B B D D D B B B D B B A B B B B B B B D C D B B B | B B C B A B B C D D C B D D B B B D B C B B B B B B D D D C B | B B D B A B B B D D D A D C B B B D B B B B B B C D C C B B | B B D B A B B D D C D B C D B B B C B C A B B C B C B C B C | B B C B B B B D D C D A B D B B B D A C A B C C B B D B B C | C B B A A B B C D D B D A B C B B C D A C A B B B B B C B A B | D B B B A D D D D B A A D B A D D A C B D B B C C C B C D | B A C D D F E F F E F D D E D A D E C B D E D C D D E D B E F | B A E C E F F E E E D E E C B E E C D D E E D E F F E B E E | B A D D F E F F E E F D E E D B E B C D E E E E F F E D F F | B B D D E F F E E E D E E D A F B C D E E E E E F F E E E F E | B C E D F F F D E D B D F D A F B C A E F F E E F D E E E E |      |      |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DI/DZ (LEVEL 2)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
A STABILITY CLASS

|      | 1  | 2   | 3   | 4   | 5   | 6 | 7   | 8   | 9   | 10  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19  | 20 | 21  | 22  | 23 | 24 |
|------|----|-----|-----|-----|-----|---|-----|-----|-----|-----|----|----|----|----|----|----|----|----|-----|----|-----|-----|----|----|
| 4/ 1 |    |     |     |     |     |   |     |     |     |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/ 2 | 3  |     |     | 4   |     |   |     | 4   | SE  | 3   |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/ 3 | SE | 4   |     |     |     |   |     | SE  | 6   |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/ 3 | 1  | 3   |     | 3   |     |   |     | SSE | 4   |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/ 4 | N  | NW  | NW  | NW  | WNW |   |     | NNW |     |     |    |    |    |    |    |    |    |    |     | 6  | 3   | 2   |    |    |
| 4/ 4 |    |     |     |     |     |   |     |     | 0   | NE  | 2  |    |    |    |    |    |    | 5  | NNW | NW | NW  | NNW |    |    |
| 4/ 5 |    |     |     |     |     |   |     |     | 1   | ENE | 3  |    |    |    |    |    |    | 3  | 0   |    |     |     |    |    |
| 4/ 6 |    |     |     |     |     |   |     |     | 2   | NE  | 3  |    |    |    |    |    |    | 3  | N   |    |     |     |    |    |
| 4/ 7 |    |     |     |     |     |   |     |     | 2   | NE  | 3  |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/ 8 |    |     |     |     |     |   |     |     | 2   | E   |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/ 9 |    |     |     |     |     |   |     |     |     |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/10 |    |     |     |     |     |   |     |     |     |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/11 |    |     |     |     |     |   |     |     |     |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/12 |    |     |     |     |     |   |     |     |     |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/13 |    |     |     |     |     |   |     |     |     |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/14 |    |     |     |     |     |   |     |     |     |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/15 |    |     |     |     |     |   |     |     |     |     |    |    |    |    |    |    |    |    |     |    |     |     |    |    |
| 4/16 | 3  | 3   | 4   | 3   | 0   | 1 | 1   | 1   | 4   | 1   | 1  |    |    |    |    |    |    |    |     | 4  | 2   | 2   |    |    |
|      | NW | NNW | NNW | NNW | SSW | S | ENE | SSE | NNW | NNW | NH |    |    |    |    |    |    |    |     | NW | NNW | NNW |    |    |





C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
8 STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6   | 7  | 8 | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17 | 18  | 19  | 20  | 21 | 22 | 23 | 24  |
|------|---|---|---|---|---|-----|----|---|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|----|-----|
| 4/ 1 |   |   |   |   | 4 | E   | 7  |   | 6   | SW  | 10  | 10  |     | 10  | 6   | 9   | 10 |     |     | 13  | 4  | 6  | 7  | 7   |
| 4/ 2 |   |   |   |   |   | ESE | 11 |   | 9   | 8   | 7   | 9   | 5   | 7   | 9   | 8   | 7  |     |     | SSE | SE | 8  | 7  | SSE |
| 4/ 3 |   |   |   |   |   | SSW |    |   | 9   | SSW | WSW | NW  | WNW | W   | NW  | WNW | W  | WNW | NNW |     |    | 6  | NW |     |
| 4/ 4 |   |   |   |   |   |     |    |   | 5   | 8   |     |     |     |     |     |     |    | 10  | 7   |     |    |    |    |     |
| 4/ 5 |   |   |   |   |   |     |    |   | NW  | NW  |     |     |     |     |     |     |    | N   | N   |     |    |    |    |     |
| 4/ 6 |   |   |   |   |   |     |    |   | 5   | 9   | 10  | 8   | 9   | 8   | 9   | 8   | 5  |     | 10  |     |    |    |    |     |
| 4/ 7 |   |   |   |   |   |     |    |   | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NNW | NE |     | 10  |     |    |    |    |     |
| 4/ 8 |   |   |   |   |   |     |    |   | 6   | N   |     |     |     |     |     |     | 5  |     | 10  |     |    |    |    |     |
| 4/ 9 |   |   |   |   |   |     |    |   |     |     |     |     |     |     |     |     |    |     |     |     |    |    |    |     |
| 4/10 |   |   |   |   |   |     |    |   |     |     |     |     |     |     |     |     |    |     |     |     |    |    |    |     |
| 4/11 |   |   |   |   |   |     |    |   |     |     |     |     |     |     |     |     |    |     |     |     |    |    |    |     |
| 4/12 |   |   |   |   |   |     |    |   |     |     |     |     |     |     |     |     |    |     |     |     |    |    |    |     |
| 4/13 |   |   |   |   |   |     |    |   |     |     |     |     |     |     |     |     |    |     |     |     |    |    |    |     |
| 4/14 |   |   |   |   |   |     |    |   |     |     |     |     |     |     |     |     |    |     |     |     |    |    |    |     |
| 4/15 |   |   |   |   |   |     |    |   |     |     |     |     |     |     |     |     |    |     |     |     |    |    |    |     |
| 4/16 |   |   |   |   |   |     |    |   |     |     |     |     |     |     |     |     |    |     |     |     |    |    |    |     |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
B STABILITY CLASS

[illegible]

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

|      | 1 | 2 | 3       | 4 | 5      | 6 | 7        | 8         | 9 | 10        | 11      | 12 | 13        | 14 | 15 | 16       | 17       | 18        | 19 | 20       | 21 | 22 | 23 | 24     |
|------|---|---|---------|---|--------|---|----------|-----------|---|-----------|---------|----|-----------|----|----|----------|----------|-----------|----|----------|----|----|----|--------|
| 4/ 1 |   |   | 4<br>NW |   |        |   |          |           |   |           |         |    | 14<br>SW  |    |    |          |          | 12<br>SSW |    |          |    |    |    |        |
| 4/ 2 |   |   |         |   | 3<br>S |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/ 3 |   |   |         |   |        |   | 5<br>NNW |           |   | 10<br>NNW | 13<br>N |    |           |    |    |          | 12<br>N  |           |    | 2<br>NNE |    |    |    | 5<br>N |
| 4/ 4 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/ 5 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/ 6 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/ 7 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/ 8 |   |   |         |   |        |   |          |           |   |           |         |    | 13<br>SW  |    |    |          |          | 12<br>SW  |    |          |    |    |    |        |
| 4/ 9 |   |   |         |   |        |   |          | 12<br>SSW |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/10 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    | 13<br>SW | 13<br>SW |           |    |          |    |    |    |        |
| 4/11 |   |   |         |   |        |   |          |           |   |           |         |    | 13<br>SSW |    |    |          |          |           |    |          |    |    |    |        |
| 4/12 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/13 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/14 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/15 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |
| 4/16 |   |   |         |   |        |   |          |           |   |           |         |    |           |    |    |          |          |           |    |          |    |    |    |        |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

[illegible]



C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD: 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
D STABILITY CLASS

|      | 1   | 2   | 3   | 4   | 5 | 6   | 7   | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|-----|-----|-----|-----|---|-----|-----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 4/ 1 | 3   | 3   |     |     |   |     |     |   |   |    |    |    |    |    |    |    |    |    | 19 |    |    |    |    |    |
| 4/ 2 | WNW | WNW |     |     |   |     |     |   |   |    |    |    |    |    |    |    |    |    | S  |    |    |    |    |    |
| 4/ 3 |     |     | 10  | 9   |   | 6   |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 4 |     |     | SSE | SSE |   | SSE |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 5 |     |     |     |     |   | NNW |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 6 |     |     |     | 2   | 2 | 1   |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 7 |     |     | 3   | 2   | 2 | WSW | WSW |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 8 |     |     | 3   | 3   | 3 | 1   | 1   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 9 | 1   | 3   | 3   | 2   | 2 | 1   | 1   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/10 | SW  | W   | W   | WNW |   | NE  | ESE |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/11 |     |     |     |     |   |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/12 |     |     |     |     |   |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/13 |     |     |     |     |   |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/14 |     |     |     |     |   |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/15 |     |     |     |     |   |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/16 |     |     |     |     |   |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |



C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
E STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8  | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 4/ 1 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 2 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 3 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 4 |   | 2 | 1 |   |   |   |   | 1  |   |    |    |    |    |    |    |    |    |    |    | 1  | NW |    |    |    |
| 4/ 5 |   |   |   |   |   |   |   | SE |   |    |    |    |    |    |    |    |    |    |    | 4  | SE |    |    |    |
| 4/ 6 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 7 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 8 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/ 9 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/10 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/11 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/12 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/13 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/14 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/15 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4/16 |   |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD( 4/ 1/77 TO 4/30/77)

HOURLY WIND AND DIRECTION  
E STABILITY CLASS

[illegible]







APPENDIX A  
STABILITY WIND ROSE DIAGRAMS

APPENDIX A  
STABILITY WIND ROSE DIAGRAMS

According to the data presented in AEC Safety Guide No. 23, the relationships between stability classes and  $\sigma_{\theta}$  are as follows (the values shown are averages for each stability classification... $\sigma_{\theta}$  is the standard deviation of horizontal wind direction fluctuations).

| <u>Stability<br/>Classification</u> | <u>Pasquill<br/>Categories</u> | <u>Average Values<br/><math>\sigma_{\theta}</math><br/>(degrees)</u> |
|-------------------------------------|--------------------------------|--|
| Extremely Unstable                  | A                              | 25.0°  |
| Moderately Unstable                 | B                              | 20.0°  |
| Slightly Unstable                   | C                              | 15.0°  |
| Neutral                             | D                              | 10.0°  |
| Slightly Stable                     | E                              | 5.0°   |
| Moderately Stable                   | F                              | 2.5°   |

Stability wind roses obtained at the trailers in the monitoring network are displayed in the following tables. Because of the relatively low heights above the surface (9 meters) at which the wind data is taken, the stability distributions are skewed toward the unstable end of the spectrum. That is, the unstable classes (A, B, and C) have a much higher frequency of occurrence than would be obtained with the Pasquill method of stability categorization (or with instruments at higher levels).

Table 1 depicts the frequency distribution of Pasquill stability categories based on  $\sigma_{\theta}$  from data collected by M. M. Pendergast and T. V. Crawford at the Savannah River Plant ("Actual Standard Deviations of Vertical and Horizontal Wind Direction Compared to Estimates from Other Measurements", Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974). Three distinct range patterns of stability class

distributions were observed: low, mid, and high, according to the height at which the  $\sigma_0$  measurements were taken.

TABLE 1  
FREQUENCY DISTRIBUTION OF PASQUILL STABILITY CATEGORIES

| Height,<br>m | Stability Categories based on $\sigma_z$ |                              |                              |                             |                            |                            |                     |            |
|--------------|--|------------------------------|------------------------------|-----------------------------|----------------------------|----------------------------|---------------------|------------|
|              | A<br>$\sigma_z > 23$                     | B<br>$18 \leq \sigma_z < 23$ | C<br>$13 \leq \sigma_z < 18$ | D<br>$8 \leq \sigma_z < 13$ | E<br>$4 \leq \sigma_z < 8$ | F<br>$2 \leq \sigma_z < 4$ | G<br>$\sigma_z < 2$ |            |
| 10           | 22.6                                     | 13.9                         | 21.2                         | 23.9                        | 8.9                        | 0.4                        | 3.5                 | LOW RANGE  |
| 35           | 19.3                                     | 11.3                         | 19.4                         | 32.4                        | 15.9                       | 0.7                        | 0.5                 |            |
| 91           | 9.6                                      | 6.7                          | 13.5                         | 21.7                        | 29.5                       | 15.4                       | 2.5                 | MID RANGE  |
| 137          | 9.3                                      | 5.3                          | 11.7                         | 20.2                        | 28.5                       | 13.4                       | 5.5                 |            |
| 182          | 7.0                                      | 2.9                          | 6.3                          | 17.1                        | 25.9                       | 25.5                       | 14.7                | HIGH RANGE |
| 243          | 7.7                                      | 4.3                          | 9.4                          | 17.7                        | 27.5                       | 22.9                       | 10.4                |            |
| 304          | 7.2                                      | 3.7                          | 8.0                          | 17.2                        | 23.7                       | 23.9                       | 11.3                |            |

Also, Figure 1 (from D. H. Slade, Meteorology and Atomic Energy, 1968, p. 52) demonstrates that the line representing very stable conditions (which by their nature are associated with light winds) branches into three separate lines near the ground. The curve at the left represents the smallest values of  $\sigma_0$  usually observed. The curve that branches off to the right reflects the contribution of very low-level wind direction meander to the total standard deviation. These meandering oscillations decrease in amplitude very rapidly with height under stable conditions. The central curve represents typical inversion conditions. Actually, for a given stability condition, values of  $\sigma_0$  will always be greater when the wind is light than when it is strong. This phenomena is most noticeable in the lowest layers.

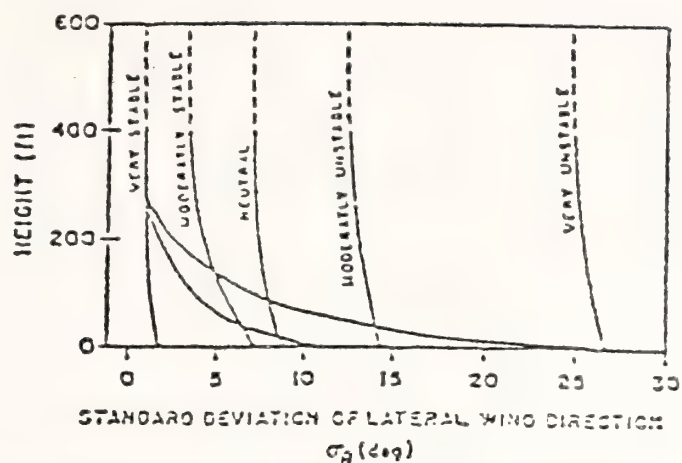


FIGURE 1

The vertical variation of the lateral wind-direction standard deviation ( $\sigma_\theta$ ) for various stability regimes. The curves represent average or typical conditions with the exception of the two outer "very stable" lines, which represent extremes.

The large surface values of  $\sigma_\theta$  for unstable conditions do not decrease very rapidly with height. As in the case of very stable conditions, the greatest lateral fluctuations during a very unstable thermal structure occur with very light winds. As a general rule, for a given insolation condition, increasing wind speeds are associated with profiles of  $\sigma_\theta$  that tend toward neutral stability.

The majority of the trailers in the network recorded very light winds throughout the month. Therefore, the stability distributions had a predominance of high  $\sigma_\theta$  values and, hence, unstable classifications. Those trailers with the highest average winds (and fewest nearby obstacles to the flow) generally had the more reasonable and representative low-level stability class distributions.



STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 8 FEET PERIOD( 4/ 1/77 TO 4/30/77)

| STABILITY CLASS - A |           | WIND DIRECTION |     |    |     |    |     |    |     |    |     |    |     | TOTAL | %   |     |     |       |      |
|---------------------|-----------|----------------|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-------|-----|-----|-----|-------|------|
| GROUP               | MAX SPEED | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW | WSW | W     | WNW | NW  | NNW | TOTAL | %    |
|                     | MPH       | 10             | 11  | 9  | 6   | 7  | 8   | 6  | 9   | 17 | 10  | 13 | 11  | 6     | 7   | 10  | 15  |       |      |
| GT                  | 24        | :              |     |    |     |    |     |    |     |    |     |    |     |       |     |     |     | :     | 0.   |
| 18 -                | 24        | :              |     |    |     |    |     |    |     |    |     |    |     |       |     |     |     | :     | 0.   |
| 12 -                | 18        | :              |     |    |     |    |     |    |     | 1  |     | 2  |     |       |     |     | 1   | :     | 4    |
| 7 -                 | 12        | :              | 5   | 5  | 1   | 1  | 2   |    | 2   | 3  | 10  | 8  | 2   |       | 3   | 4   | 9   | :     | 55   |
| 3 -                 | 7         | :              | 38  | 32 | 13  | 15 | 10  | 11 | 8   | 15 | 19  | 29 | 15  | 17    | 30  | 45  | 24  | :     | 328  |
| LT                  | 3         | :              | 24  | 22 | 26  | 22 | 25  | 19 | 18  | 10 | 12  | 12 | 10  | 18    | 20  | 25  | 18  | :     | 301  |
| TOTAL               |           | :              | 67  | 59 | 40  | 37 | 36  | 29 | 28  | 29 | 41  | 51 | 27  | 35    | 53  | 74  | 52  | :     | 688  |
| PERCENT             |           | :              | 10. | 9. | 6.  | 5. | 5.  | 4. | 4.  | 4. | 6.  | 7. | 4.  | 5.    | 8.  | 11. | 8.  | :     | 100. |
| .....               |           |                |     |    |     |    |     |    |     |    |     |    |     |       |     |     |     |       |      |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 78( 11.34 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 8 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - B

| GROUP MAX SPEED<br>MPH |    | WIND DIRECTION |     |    |     |    |     |    |     |    |     |    |     |    |     |    |     | TOTAL | % |         |
|------------------------|----|----------------|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-------|---|---------|
|                        |    | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW | WSW | W  | WNW | NW | NNW |       |   |         |
| GT                     | 24 | :              | 12  | 10 | 9   | 7  | 6   | 5  | 7   | 8  | 17  | 14 | 16  | 13 | 8   | 9  | 12  | 13    | : | 0.      |
| 18 -                   | 24 | :              |     |    |     |    |     |    |     |    |     |    |     |    |     |    |     |       | : | 0.      |
| 12 -                   | 18 | :              | 1   |    |     |    |     |    |     |    | 2   | 4  | 7   | 3  |     |    | 1   | 1     | : | 19 4.   |
| 7 -                    | 12 | :              | 8   | 4  | 2   | 2  |     |    | 1   | 2  | 5   | 12 | 14  | 9  | 3   | 6  | 10  | 14    | : | 92 20.  |
| 3 -                    | 7  | :              | 21  | 20 | 8   | 11 | 5   | 1  | 7   | 10 | 10  | 4  | 11  | 9  | 13  | 19 | 34  | 30    | : | 213 45. |
| LT                     | 3  | :              | 20  | 12 | 9   | 13 | 9   | 7  | 7   | 11 | 4   | 6  | 3   | 10 | 10  | 8  | 11  | 7     | : | 147 31. |
| TOTAL                  |    | :              | 50  | 36 | 19  | 26 | 14  | 8  | 15  | 23 | 21  | 26 | 35  | 31 | 26  | 33 | 56  | 52    | : | 471     |
| PERCENT                |    | :              | 11. | 8. | 4.  | 6. | 3.  | 2. | 3.  | 5. | 4.  | 6. | 7.  | 7. | 6.  | 7. | 12. | 11.   | : | 100.    |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 33( 7.01 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 8 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - C

| GROUP MAX SPEED<br>MPH | N  | NNE | NE | ENE | E  | ESE | SE | SSE | WIND DIRECTION |     |     |     | W  | WNW | NW  | NNW | TOTAL | %   |
|------------------------|----|-----|----|-----|----|-----|----|-----|----------------|-----|-----|-----|----|-----|-----|-----|-------|-----|
|                        |    |     |    |     |    |     |    |     | S              | SSW | SW  | WSW |    |     |     |     |       |     |
| GT 24 :                | 12 | 11  | 13 | 11  | 6  | 8   | 10 | 14  | 20             | 20  | 17  | 17  | 13 | 14  | 16  | 16  |       | 0.  |
| 18 - 24 :              |    |     |    |     |    |     |    |     | 7              | 7   |     |     |    |     |     |     | 14    | 1.  |
| 12 - 18 :              | 1  |     | 2  |     |    |     |    | 3   | 12             | 64  | 54  | 12  | 4  | 5   | 6   | 7   | 170   | 14. |
| 7 - 12 :               | 26 | 13  | 3  | 5   |    | 1   | 3  | 10  | 25             | 47  | 57  | 30  | 16 | 11  | 30  | 40  | 317   | 25. |
| 3 - 7 :                | 36 | 19  | 19 | 20  | 23 | 14  | 23 | 22  | 19             | 30  | 23  | 24  | 27 | 48  | 76  | 46  | 469   | 38. |
| LT 3 :                 | 15 | 11  | 21 | 14  | 29 | 27  | 22 | 17  | 15             | 18  | 15  | 14  | 18 | 19  | 15  | 5   | 275   | 22. |
| TOTAL :                | 78 | 43  | 45 | 39  | 52 | 42  | 48 | 52  | 78             | 166 | 149 | 80  | 65 | 83  | 127 | 98  | 1245  |     |
| PERCENT :              | 6. | 3.  | 4. | 3.  | 4. | 3.  | 4. | 4.  | 6.             | 13. | 12. | 6.  | 5. | 7.  | 10. | 8.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 50( 4.02 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT

LEVEL = 8 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - D

| GROUP   | MAX SPEED | WIND DIRECTION |     |    |     |     |     |     |     |     |     |     |     |    |     |     |     | TOTAL | %   |
|---------|-----------|----------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-------|-----|
|         |           | N              | NNE | NE | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W  | WNW | NW  | NNW |       |     |
| GT      | 24        | 14             | 12  | 13 | 13  | 8   | 8   | 10  | 16  | 19  | 20  | 21  | 20  | 14 | 14  | 18  | 16  |       | 0.  |
| 18 -    | 24        |                |     |    |     |     |     |     |     | 6   | 9   | 3   | 5   |    |     | 1   |     | 24    | 1.  |
| 12 -    | 18        | 6              | 1   | 2  | 1   |     |     |     | 2   | 34  | 83  | 48  | 6   | 2  | 4   | 26  | 9   | 224   | 9.  |
| 7 -     | 12        | 26             | 17  | 15 | 7   | 1   | 2   | 37  | 24  | 53  | 56  | 57  | 26  | 21 | 8   | 53  | 56  | 459   | 19. |
| 3 -     | 7         | 36             | 21  | 19 | 26  | 38  | 46  | 71  | 86  | 59  | 76  | 146 | 59  | 42 | 50  | 98  | 44  | 917   | 38. |
| LT      | 3         | 21             | 19  | 14 | 33  | 63  | 62  | 77  | 59  | 59  | 97  | 153 | 50  | 31 | 24  | 22  | 13  | 797   | 33. |
| TOTAL   |           | 89             | 58  | 50 | 67  | 102 | 110 | 185 | 171 | 211 | 321 | 407 | 146 | 96 | 86  | 200 | 122 | 2421  |     |
| PERCENT |           | 4.             | 2.  | 2. | 3.  | 4.  | 5.  | 8.  | 7.  | 9.  | 13. | 17. | 6.  | 4. | 4.  | 8.  | 5.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 137( 5.66 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT

LEVEL = 8 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - E

WIND DIRECTION

| GROUP MAX SPEED<br>MPH | N   | NNE | NE | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W  | WNW | NW  | NNW | TOTAL | %     |
|------------------------|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-------|-------|
| GT 24 :                |     |     |    |     |     |     |     |     |     | 1   |     |     |    |     |     |     | 1     | 0.    |
| 18 - 24 :              | 1   |     |    |     |     |     |     |     | 7   | 4   | 1   |     |    |     |     |     |       | 13 0. |
| 12 - 18 :              | 3   | 1   |    |     |     |     |     |     | 7   | 15  | 17  | 6   | 4  | 2   | 20  | 9   | 84    | 3.    |
| 7 - 12 :               | 29  | 3   | 1  | 2   |     |     | 9   | 7   | 48  | 16  | 17  | 16  | 5  | 1   | 40  | 62  | 256   | 10.   |
| 3 - 7 :                | 43  | 8   | 9  | 22  | 44  | 46  | 82  | 69  | 81  | 105 | 257 | 105 | 35 | 46  | 109 | 65  | 1126  | 43.   |
| LT 3 :                 | 39  | 21  | 15 | 43  | 67  | 100 | 95  | 86  | 65  | 123 | 251 | 72  | 37 | 58  | 45  | 43  | 1160  | 44.   |
| TOTAL :                | 115 | 33  | 25 | 67  | 111 | 146 | 186 | 162 | 208 | 264 | 543 | 199 | 81 | 107 | 214 | 179 | 2640  |       |
| PERCENT :              | 4.  | 1.  | 1. | 3.  | 4.  | 6.  | 7.  | 6.  | 8.  | 10. | 21. | 8.  | 3. | 4.  | 8.  | 7.  | 100.  |       |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 260( 9.85 %)



STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 8 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - TOTAL

| GROUP MAX SPEED<br>MPH | WIND DIRECTION |     |     |     |     |     |     |     |     |     |      |     |     |     |     |     | TOTAL | %   |
|------------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-------|-----|
|                        | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW   | WSW | W   | WNW | NW  | NNW |       |     |
| GT 24 :                | 18             | 12  | 13  | 13  | 8   | 8   | 11  | 16  | 21  | 24  | 21   | 20  | 14  | 14  | 18  | 16  | 1     | 0.  |
| 18 ~ 24 :              | 1              |     |     |     |     |     |     |     | 20  | 20  | 4    | 5   |     |     | 1   |     | 1     | 1.  |
| 12 ~ 18 :              | 11             | 2   | 4   | 1   |     |     |     | 5   | 56  | 166 | 128  | 27  | 10  | 11  | 53  | 27  | 51    | 7.  |
| 7 ~ 12 :               | 94             | 42  | 22  | 16  | 2   | 5   | 50  | 45  | 134 | 141 | 153  | 83  | 45  | 29  | 137 | 181 | 1179  | 16. |
| 3 ~ 7 :                | 174            | 100 | 68  | 94  | 120 | 114 | 194 | 195 | 184 | 234 | 466  | 212 | 134 | 193 | 362 | 209 | 3053  | 41. |
| LT 3 :                 | 121            | 87  | 89  | 127 | 195 | 219 | 222 | 194 | 154 | 259 | 432  | 157 | 116 | 132 | 120 | 87  | 2711  | 36. |
| TOTAL :                | 401            | 231 | 183 | 238 | 317 | 338 | 466 | 439 | 548 | 821 | 1183 | 484 | 305 | 365 | 673 | 504 | 7496  |     |
| PERCENT :              | 5.             | 3.  | 2.  | 3.  | 4.  | 5.  | 6.  | 6.  | 7.  | 11. | 16.  | 6.  | 4.  | 5.  | 9.  | 7.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 558( 7.44 %)

|                 |             |         |
|-----------------|-------------|---------|
| PERCENTAGE OF A | STABILITY = | 9.18 %  |
| PERCENTAGE OF B | STABILITY = | 6.28 %  |
| PERCENTAGE OF C | STABILITY = | 16.61 % |
| PERCENTAGE OF D | STABILITY = | 32.30 % |
| PERCENTAGE OF E | STABILITY = | 35.22 % |

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
LEVEL = 30 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - A

GROUP MAX SPEED  
MPH

WIND DIRECTION

|           | N   | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW | WSW | W  | WNW | NW | NNW | TOTAL | %    |
|-----------|-----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-------|------|
| GT 24 :   | 9   | 11  | 8  | 5   | 9  | 8   | 10 | 6   | 22 | 8   | 14 | 10  | 9  | 7   | 10 | 19  |       |      |
| 18 - 24 : |     |     |    |     |    |     |    |     | 1  |     |    |     |    |     |    |     | 1 :   | 2 0. |
| 12 - 18 : |     |     |    |     |    |     |    |     | 0  |     | 2  |     |    |     |    |     | 1 :   | 3 1. |
| 7 - 12 :  | 9   | 3   | 1  |     | 2  | 1   | 3  |     | 3  | 2   | 6  | 3   | 5  | 1   | 6  | 6   | 51    | 13.  |
| 3 - 7 :   | 25  | 14  | 18 | 17  | 9  | 7   | 10 | 7   | 16 | 13  | 21 | 14  | 13 | 19  | 18 | 14  | 235   | 58.  |
| LT 3 :    | 11  | 4   | 6  | 7   | 7  | 8   | 7  | 5   | 4  | 6   | 9  | 6   | 12 | 10  | 9  | 3   | 114   | 28.  |
| TOTAL :   | 45  | 21  | 25 | 24  | 18 | 16  | 20 | 12  | 24 | 21  | 38 | 23  | 30 | 30  | 33 | 25  | 405   |      |
| PERCENT : | 11. | 5.  | 6. | 6.  | 4. | 4.  | 5. | 3.  | 6. | 5.  | 9. | 6.  | 7. | 7.  | 8. | 6.  | 100.  |      |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 6( 1.48 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 30 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - B

| GROUP MAX SPEED<br>MPH | WIND DIRECTION |     |    |     |    |     |    |     |    |     |    |     |    |     |     |     | TOTAL | %   |
|------------------------|----------------|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|-------|-----|
|                        | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW | WSW | W  | WNW | NW  | NNW |       |     |
| GT 24 :                | 10             | 10  | 7  | 10  | 4  | 5   | 8  | 12  | 12 | 13  | 16 | 8   | 6  | 11  | 13  | 15  | :     | 0.  |
| 18 - 24 :              |                |     |    |     |    |     |    |     |    |     |    |     |    |     |     |     | :     | 0.  |
| 12 - 18 :              |                |     |    |     |    |     |    |     |    |     |    |     |    |     |     |     | :     |     |
| 7 - 12 :               | 8              | 7   | 1  | 1   |    |     | 3  | 3   | 2  | 3   | 1  |     |    | 1   | 1   | 9   | 3.    |     |
| 3 - 7 :                | 18             | 11  | 4  | 7   | 5  | 5   | 3  | 5   | 7  | 4   | 6  | 7   | 17 | 22  | 14  | 9   | 73    | 28. |
| LT 3 :                 | 6              | 4   | 1  | 0   | 10 | 2   | 5  | 1   | 1  | 2   | 2  | 1   | 1  | 4   | 4   | 2   | 135   | 51. |
| TOTAL :                | 32             | 22  | 6  | 8   | 15 | 7   | 11 | 10  | 11 | 17  | 14 | 9   | 8  | 31  | 41  | 21  | 263   |     |
| PERCENT :              | 12.            | 8.  | 2. | 3.  | 6. | 3.  | 4. | 4.  | 4. | 6.  | 5. | 3.  | 3. | 12. | 16. | 8.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 4( 1.52 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 30 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - C

| GROUP   | MAX SPEED<br>MPH | WIND DIRECTION |     |    |     |    |     |    |     |    |     |     |     |    |     |     |     | TOTAL | %   |
|---------|------------------|----------------|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|----|-----|-----|-----|-------|-----|
|         |                  | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW  | WSW | W  | WNW | NW  | NNW |       |     |
| GT      | 24               | :              | :   | :  | :   | :  | :   | :  | :   | :  | :   | :   | :   | :  | :   | :   | :   | :     | 0.  |
| 18 -    | 24               | :              | :   | :  | :   | :  | :   | :  | :   | 1  | 6   | 6   | :   | :  | :   | :   | 1   | 14    | 2.  |
| 12 -    | 18               | :              | :   | :  | :   | :  | :   | :  | 3   | 6  | 26  | 17  | 4   | 1  | 4   | 6   | 5   | 85    | 12. |
| 7 -     | 12               | :              | :   | :  | :   | :  | 2   | 6  | 9   | 11 | 25  | 30  | 7   | 11 | 12  | 36  | 23  | 209   | 31. |
| 3 -     | 7                | :              | :   | :  | :   | :  | 12  | 17 | 16  | 8  | 9   | 11  | 13  | 17 | 28  | 40  | 27  | 281   | 41. |
| LT      | 3                | :              | :   | :  | :   | :  | 11  | 5  | 3   | 10 | 4   | 2   | 2   | 2  | 6   | 4   | 3   | 93    | 14. |
| TOTAL   |                  | :              | 72  | 34 | 25  | 23 | 25  | 28 | 31  | 36 | 70  | 66  | 26  | 31 | 50  | 86  | 59  | 682   |     |
| PERCENT |                  | :              | 11. | 5. | 4.  | 3. | 4.  | 4. | 5.  | 5. | 10. | 10. | 4.  | 5. | 7.  | 13. | 9.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 4( 0.59 %)

# STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
 LEVEL = 30 FEET PERIOD( 4/ 1/77 TO 4/30/77)

## STABILITY CLASS - D

| STABILITY CLASS |           | N  | NNE | NE | ENE | E  | ESE | SE | SSE | WIND DIRECTION |     |     |     |    |     |     |     | NNW  | NW  | TOTAL | % |
|-----------------|-----------|----|-----|----|-----|----|-----|----|-----|----------------|-----|-----|-----|----|-----|-----|-----|------|-----|-------|---|
|                 |           |    |     |    |     |    |     |    |     | S              | SSW | SW  | WSW | W  | WNW |     |     |      |     |       |   |
| GROUP           | MAX SPEED | 15 | 15  | 14 | 10  | 10 | 13  | 15 | 25  | 28             | 25  | 22  | 22  | 18 | 19  | 22  | 20  |      |     |       |   |
|                 | MPH       |    |     |    |     |    |     |    |     |                |     |     |     |    |     |     |     |      |     |       |   |
| GT              | 24        | :  |     |    |     |    |     |    | 1   | 4              | 2   |     |     |    |     |     | :   | 7    | 0.  |       |   |
| 18 -            | 24        | :  |     |    |     |    |     |    | 2   | 30             | 41  | 16  | 4   | 1  | 5   | 11  | 5   | 115  | 7.  |       |   |
| 12 -            | 18        | :  | 15  | 6  | 3   |    | 1   | 4  | 10  | 40             | 95  | 52  | 26  | 8  | 12  | 39  | 23  | 334  | 19. |       |   |
| 7 -             | 12        | :  | 20  | 11 | 12  | 7  | 8   | 22 | 23  | 36             | 61  | 50  | 37  | 16 | 41  | 87  | 59  | 498  | 28. |       |   |
| 3 -             | 7         | :  | 21  | 18 | 15  | 31 | 37  | 36 | 31  | 27             | 55  | 63  | 37  | 57 | 61  | 59  | 24  | 611  | 35. |       |   |
| LT              | 3         | :  | 8   | 12 | 7   | 15 | 14  | 16 | 15  | 14             | 13  | 18  | 19  | 12 | 9   | 4   | 2   | 188  | 11. |       |   |
| TOTAL           |           | :  | 64  | 47 | 37  | 53 | 60  | 78 | 82  | 151            | 267 | 199 | 123 | 94 | 128 | 200 | 113 | 1753 |     |       |   |
| PERCENT         |           | :  | 4.  | 3. | 2.  | 3. | 3.  | 4. | 5.  | 9.             | 15. | 11. | 7.  | 5. | 7.  | 11. | 6.  | 100. |     |       |   |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 11( 0.63 %)



STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 30 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - E

| GROUP   | MAX SPEED<br>MPH | WIND DIRECTION |     |    |     |     |     |     |     |     |     |     |     |     |     |     |     | TOTAL | %        |
|---------|------------------|----------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|----------|
|         |                  | N              | NNE | NE | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW |       |          |
| GT      | 24               | 23             | 17  | 17 | 12  | 12  | 14  | 17  | 23  | 26  | 26  | 26  | 23  | 17  | 19  | 22  | 18  | :     | 12 0.    |
| 18 -    | 24               | 2              |     |    |     |     |     |     | 4   | 25  | 36  | 19  | 5   |     | 9   | 24  | 1   | :     | 125 3.   |
| 12 -    | 18               | 23             | 7   | 8  | 2   | 1   | 2   | 20  | 23  | 62  | 55  | 37  | 25  | 7   | 10  | 49  | 35  | :     | 366 10.  |
| 7 -     | 12               | 60             | 15  | 15 | 8   | 16  | 18  | 74  | 101 | 117 | 145 | 68  | 35  | 19  | 54  | 128 | 80  | :     | 953 25.  |
| 3 -     | 7                | 53             | 26  | 31 | 63  | 191 | 167 | 151 | 141 | 116 | 200 | 284 | 97  | 104 | 110 | 100 | 48  | :     | 1882 49. |
| LT      | 3                | 16             | 11  | 11 | 7   | 29  | 31  | 40  | 47  | 44  | 58  | 71  | 37  | 27  | 13  | 18  | 20  | :     | 480 13.  |
| TOTAL   |                  | 154            | 59  | 65 | 80  | 237 | 218 | 285 | 316 | 371 | 498 | 480 | 199 | 157 | 196 | 319 | 184 | :     | 3818     |
| PERCENT |                  | 4.             | 2.  | 2. | 2.  | 6.  | 6.  | 7.  | 8.  | 10. | 13. | 13. | 5.  | 4.  | 5.  | 8.  | 5.  | :     | 100.     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 25( 0.65 %)

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
 LEVEL = 30 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - TOTAL

| GROUP   | MAX SPEED<br>MPH | WIND DIRECTION |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | TOTAL | %        |
|---------|------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|----------|
|         |                  | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW |       |          |
| GT      | 24               | :              |     |     |     |     |     |     | 1   | 11  | 6   | 1   |     |     |     |     |     | :     | 19 0.    |
| 18 -    | 24               | :              | 2   |     |     |     |     |     | 6   | 57  | 83  | 41  | 9   | 1   | 14  | 35  | 8   | :     | 256 4.   |
| 12 -    | 18               | :              | 46  | 17  | 12  | 2   | 1   | 3   | 24  | 37  | 110 | 179 | 109 | 55  | 26  | 95  | 65  | :     | 797 11.  |
| 7 -     | 12               | :              | 121 | 40  | 35  | 19  | 26  | 29  | 108 | 136 | 170 | 238 | 161 | 84  | 51  | 271 | 177 | :     | 1784 26. |
| 3 -     | 7                | :              | 148 | 86  | 79  | 131 | 255 | 228 | 217 | 200 | 172 | 284 | 383 | 167 | 198 | 239 | 122 | :     | 3144 45. |
| LT      | 3                | :              | 52  | 41  | 33  | 38  | 66  | 67  | 74  | 73  | 75  | 85  | 103 | 66  | 56  | 41  | 31  | :     | 945 14.  |
| TOTAL   |                  | :              | 369 | 184 | 159 | 190 | 348 | 327 | 423 | 453 | 595 | 875 | 798 | 381 | 322 | 437 | 681 | :     | 6945     |
| PERCENT |                  | :              | 5.  | 3.  | 2.  | 3.  | 5.  | 5.  | 6.  | 7.  | 9.  | 13. | 11. | 5.  | 5.  | 6.  | 10. | :     | 100.     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 50( 0.72 %)

|                 |             |         |
|-----------------|-------------|---------|
| PERCENTAGE OF A | STABILITY - | 5.83 %  |
| PERCENTAGE OF B | STABILITY - | 3.79 %  |
| PERCENTAGE OF C | STABILITY - | 9.82 %  |
| PERCENTAGE OF D | STABILITY - | 25.24 % |
| PERCENTAGE OF E | STABILITY - | 54.97 % |

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 100 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - A

| GROUP MAX SPEED<br>MPH | N   | NNE | NE | ENE | E  | ESE | SE | SSE | WIND DIRECTION |     |    |     |    |     |    |     | NNW | NW | TOTAL | %   |
|------------------------|-----|-----|----|-----|----|-----|----|-----|----------------|-----|----|-----|----|-----|----|-----|-----|----|-------|-----|
|                        |     |     |    |     |    |     |    |     | S              | SSW | SW | WSW | W  | WNW | NW | NNW |     |    |       |     |
| GT 24 :                | 9   | 9   | 6  | 12  | 5  | 9   | 9  | 11  | 10             | 8   | 15 | 11  | 6  | 7   | 13 | 9   | :   | :  | :     | 0.  |
| 18 - 24 :              |     |     |    |     |    |     |    |     |                |     |    |     |    |     |    |     | :   | :  | :     | 0.  |
| 12 - 18 :              |     |     |    | 1   |    |     |    |     |                |     | 1  |     |    |     | 1  |     | :   |    | 3     | 1.  |
| 7 - 12 :               | 4   | 3   |    | 0   |    | 1   | 3  | 1   | 3              | 4   | 6  | 2   |    | 1   | 1  | 3   | :   |    | 32    | 9.  |
| 3 - 7 :                | 22  | 6   | 11 | 9   | 7  | 9   | 9  | 12  | 14             | 10  | 14 | 7   | 12 | 11  | 13 | 13  | :   |    | 179   | 48. |
| LT 3 :                 | 11  | 10  | 8  | 11  | 13 | 11  | 14 | 12  | 10             | 10  | 7  | 4   | 9  | 13  | 13 | 4   | :   |    | 160   | 43. |
| TOTAL :                | 37  | 19  | 19 | 21  | 20 | 21  | 26 | 25  | 27             | 24  | 28 | 13  | 21 | 25  | 28 | 20  | :   |    | 374   |     |
| PERCENT :              | 10. | 5.  | 5. | 6.  | 5. | 6.  | 7. | 7.  | 7.             | 6.  | 7. | 3.  | 6. | 7.  | 7. | 5.  | :   |    | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 12( 3.21 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL =100 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - B

| GROUP MAX SPEED<br>MPH | N   | NNE | NE | ENE | E  | ESE | SE | WIND DIRECTION |    |     |    |     |    |     |     | NNW   | TOTAL   | %  |
|------------------------|-----|-----|----|-----|----|-----|----|----------------|----|-----|----|-----|----|-----|-----|-------|---------|----|
|                        |     |     |    |     |    |     |    | SSE            | S  | SSW | SW | WSW | W  | WNW | NW  |       |         |    |
| GT 24 :                | 15  | 11  | 7  | 7   | 7  | 9   | 9  | 12             | 12 | 13  | 14 | 9   | 8  | 16  | 13  | 22    | :       | 0. |
| 18 - 24 :              |     |     |    |     |    |     |    |                |    |     |    |     |    |     |     | 1 :   | 1 0.    |    |
| 12 - 18 :              | 1   |     |    |     |    |     |    | 1              | 1  | 4   | 1  |     |    | 1   | 1   | 0 :   | 10 3.   |    |
| 7 - 12 :               | 8   | 2   | 1  | 1   | 1  | 1   | 4  | 0              | 3  | 3   | 6  | 2   | 2  | 3   | 13  | 11 :  | 61 21.  |    |
| 3 - 7 :                | 14  | 13  | 5  | 7   | 10 | 10  | 11 | 6              | 8  | 4   | 10 | 6   | 5  | 15  | 16  | 13 :  | 153 53. |    |
| LT 3 :                 | 8   | 7   | 4  | 3   | 3  | 3   | 7  | 0              | 2  | 4   | 2  | 5   | 0  | 2   | 9   | 3 :   | 62 22.  |    |
| TOTAL :                | 31  | 22  | 10 | 11  | 14 | 14  | 22 | 7              | 14 | 15  | 19 | 13  | 7  | 21  | 39  | 28 :  | 287     |    |
| PERCENT :              | 11. | 8.  | 3. | 4.  | 5. | 5.  | 8. | 2.             | 5. | 5.  | 7. | 5.  | 2. | 7.  | 14. | 10. : | 100.    |    |
| .....                  |     |     |    |     |    |     |    |                |    |     |    |     |    |     |     |       |         |    |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 5( 1.74 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 100 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - C

| STABILITY CLASS - C    |    | WIND DIRECTION |     |    |     |    |     |    |     |    |     |    |     |    |     |     |       | TOTAL   | % |
|------------------------|----|----------------|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-----|-------|---------|---|
|                        |    | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW | WSW | W  | WNW | NW  | NNW   |         |   |
| GROUP MAX SPEED<br>MPH |    | 17             | 15  | 10 | 9   | 7  | 9   | 12 | 11  | 26 | 21  | 22 | 18  | 16 | 13  | 17  | 16    |         |   |
| GT                     | 24 | :              |     |    |     |    |     |    |     | 2  |     |    |     |    |     | :   | 2 0.  |         |   |
| 18 -                   | 24 | :              |     |    |     |    |     |    |     | 3  | 5   | 3  | 1   |    |     | :   | 12 2. |         |   |
| 12 -                   | 18 | :              | 5   | 3  |     |    |     | 1  |     | 10 | 17  | 21 | 2   | 2  | 1   | 10  | 6 :   | 78 12.  |   |
| 7 -                    | 12 | :              | 17  | 6  | 3   | 5  | 1   | 0  | 9   | 8  | 13  | 17 | 10  | 8  | 10  | 39  | 18 :  | 166 26. |   |
| 3 -                    | 7  | :              | 30  | 20 | 12  | 16 | 14  | 13 | 11  | 11 | 8   | 6  | 9   | 11 | 19  | 25  | 18 :  | 246 39. |   |
| LT                     | 3  | :              | 6   | 13 | 7   | 6  | 7   | 6  | 7   | 3  | 2   | 9  | 13  | 16 | 10  | 11  | 3 :   | 127 20. |   |
| TOTAL                  |    | :              | 58  | 42 | 22  | 27 | 22  | 20 | 27  | 37 | 45  | 56 | 35  | 37 | 40  | 85  | 45 :  | 631     |   |
| PERCENT                |    | :              | 9.  | 7. | 3.  | 4. | 3.  | 3. | 4.  | 6. | 7.  | 9. | 6.  | 6. | 6.  | 13. | 7.    | 100.    |   |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 8( 1.27 %)



# STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT

LEVEL = 100 FEET PERIOD( 4/ 1/77 TO 4/30/77)

## STABILITY CLASS - D

| GROUP MAX SPEED<br>MPH | N  | NNE | NE | ENE | E  | ESE | SE | SSE | WIND DIRECTION |     |     |     |     |     |     |       | NNW  | NW  | WNW | W | WSW | SW | SSW | S | TOTAL | % |
|------------------------|----|-----|----|-----|----|-----|----|-----|----------------|-----|-----|-----|-----|-----|-----|-------|------|-----|-----|---|-----|----|-----|---|-------|---|
|                        |    |     |    |     |    |     |    |     | SSE            | S   | SSW | SW  | WSW | W   | WNW | NW    |      |     |     |   |     |    |     |   |       |   |
| GT 24 :                | 20 | 17  | 15 | 13  | 12 | 12  | 12 | 23  | 31             | 32  | 24  | 23  | 21  | 21  | 2   | :     | 32   | 2.  |     |   |     |    |     |   |       |   |
| 18 - 24 :              | 2  |     |    |     |    |     |    | 1   | 27             | 59  | 29  | 8   | 2   | 6   | 12  | 9 :   | 155  | 9.  |     |   |     |    |     |   |       |   |
| 12 - 18 :              | 16 | 9   | 4  | 1   | 1  | 1   | 2  | 17  | 24             | 69  | 37  | 18  | 6   | 6   | 31  | 25 :  | 267  | 16. |     |   |     |    |     |   |       |   |
| 7 - 12 :               | 33 | 16  | 11 | 5   | 4  | 12  | 16 | 21  | 23             | 49  | 32  | 33  | 21  | 49  | 90  | 64 :  | 479  | 29. |     |   |     |    |     |   |       |   |
| 3 - 7 :                | 24 | 13  | 14 | 26  | 35 | 37  | 44 | 25  | 22             | 19  | 28  | 30  | 58  | 66  | 53  | 20 :  | 514  | 31. |     |   |     |    |     |   |       |   |
| LT 3 :                 | 11 | 10  | 6  | 7   | 16 | 9   | 12 | 19  | 12             | 9   | 12  | 14  | 27  | 9   | 10  | 3 :   | 186  | 11. |     |   |     |    |     |   |       |   |
| TOTAL :                | 86 | 48  | 35 | 39  | 56 | 59  | 74 | 83  | 120            | 222 | 139 | 103 | 114 | 136 | 198 | 121 : | 1633 |     |     |   |     |    |     |   |       |   |
| PERCENT :              | 5. | 3.  | 2. | 2.  | 3. | 4.  | 5. | 5.  | 7.             | 14. | 9.  | 6.  | 7.  | 8.  | 12. | 7. :  | 100. |     |     |   |     |    |     |   |       |   |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 19( 1.16 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 100 FEET PERIOD( 4/ 1/77 TO 4/30/77)

| STABILITY CLASS - E | GROUP | MAX SPEED<br>MPH | WIND DIRECTION |     |    |     |     |     |     |     |     |     |     |     |     |     |     |     | TOTAL | %   |
|---------------------|-------|------------------|----------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
|                     |       |                  | N              | NNE | NE | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW |       |     |
|                     |       |                  | 28             | 20  | 18 | 21  | 15  | 16  | 20  | 24  | 30  | 29  | 30  | 27  | 20  | 22  | 26  | 24  |       |     |
| GT                  | 24    | :                | 1              |     |    |     |     |     |     | 1   | 22  | 16  | 10  | 6   |     |     | 6   | 4   | 66    | 2.  |
| 18 -                | 24    | :                | 4              | 3   | 2  | 1   |     |     | 1   | 9   | 38  | 65  | 33  | 9   | 6   | 13  | 23  | 12  | 219   | 6.  |
| 12 -                | 18    | :                | 39             | 13  | 9  | 4   | 4   | 8   | 72  | 34  | 139 | 83  | 58  | 37  | 11  | 11  | 68  | 60  | 650   | 17. |
| 7 -                 | 12    | :                | 83             | 24  | 23 | 20  | 30  | 64  | 110 | 132 | 104 | 147 | 61  | 66  | 43  | 69  | 159 | 114 | 1249  | 32. |
| 3 -                 | 7     | :                | 39             | 22  | 25 | 40  | 107 | 154 | 164 | 91  | 50  | 46  | 60  | 108 | 94  | 101 | 103 | 59  | 1263  | 32. |
| LT                  | 3     | :                | 32             | 17  | 22 | 31  | 32  | 40  | 41  | 40  | 35  | 38  | 33  | 28  | 26  | 18  | 25  | 27  | 485   | 12. |
| TOTAL               |       | :                | 198            | 79  | 81 | 96  | 173 | 266 | 388 | 307 | 388 | 395 | 255 | 254 | 180 | 212 | 384 | 276 | 3932  |     |
| PERCENT             |       | :                | 5.             | 2.  | 2. | 2.  | 4.  | 7.  | 10. | 8.  | 10. | 10. | 6.  | 6.  | 5.  | 5.  | 10. | 7.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 55( 1.40 %)

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
LEVEL = 100 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - TOTAL

| GROUP MAX SPEED<br>MPH | N   | NNE | NE  | ENE | E   | ESE | SE  | WIND DIRECTION |     |     |     |     |     |     |     | NNW | NW | NNW | TOTAL | %    |
|------------------------|-----|-----|-----|-----|-----|-----|-----|----------------|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-------|------|
|                        | 28  | 20  | 18  | 21  | 15  | 16  | 20  | SSE            | S   | SSW | SW  | WSW | W   | WNW | NW  |     |    |     |       |      |
| GT 24                  | 1   |     |     |     |     |     |     | 1              | 36  | 33  | 11  | 6   |     |     | 8   | 4   |    |     | 100   | 1.   |
| 18 - 24                | 6   | 3   | 2   | 1   |     |     | 1   | 10             | 68  | 129 | 65  | 18  | 8   | 19  | 35  | 22  |    |     | 387   | 6.   |
| 12 - 18                | 61  | 25  | 13  | 6   | 5   | 9   | 75  | 52             | 174 | 173 | 118 | 57  | 19  | 19  | 111 | 91  |    |     | 1008  | 15.  |
| 7 - 12                 | 145 | 51  | 38  | 31  | 36  | 80  | 133 | 163            | 141 | 216 | 122 | 113 | 74  | 132 | 302 | 210 |    |     | 1987  | 29.  |
| 3 - 7                  | 129 | 74  | 67  | 98  | 173 | 233 | 241 | 145            | 105 | 87  | 118 | 160 | 180 | 212 | 210 | 123 |    |     | 2355  | 34.  |
| LT 3                   | 70  | 59  | 49  | 60  | 73  | 72  | 82  | 79             | 64  | 65  | 65  | 65  | 80  | 54  | 71  | 42  |    |     | 1050  | 15.  |
| TOTAL                  | 412 | 212 | 169 | 196 | 287 | 394 | 532 | 450            | 588 | 703 | 499 | 419 | 361 | 436 | 737 | 492 |    |     | 6887  |      |
| PERCENT                | 6.  | 3.  | 2.  | 3.  | 4.  | 6.  | 8.  | 7.             | 9.  | 10. | 7.  | 6.  | 5.  | 6.  | 11. | 7.  |    |     |       | 100. |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 99( 1.44 %)

|                 |             |         |
|-----------------|-------------|---------|
| PERCENTAGE OF A | STABILITY - | 5.43 %  |
| PERCENTAGE OF B | STABILITY - | 4.17 %  |
| PERCENTAGE OF C | STABILITY - | 9.16 %  |
| PERCENTAGE OF D | STABILITY - | 23.71 % |
| PERCENTAGE OF E | STABILITY - | 57.09 % |

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL ±200 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - A

| GROUP   | MAX SPEED<br>MPH | WIND DIRECTION |     |    |     |    |     |    |     |    |     |    |     |    |     |    |     | TOTAL | %   |
|---------|------------------|----------------|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-------|-----|
|         |                  | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW | WSW | W  | WNW | NW | NNW |       |     |
| GT      | 24               | :              |     |    |     |    |     |    |     |    | 1   |    |     |    |     |    |     | 1     | 0.  |
| 18 -    | 24               | :              |     |    |     |    |     |    |     |    | 0   |    |     |    |     |    |     | 0     | 0.  |
| 12 -    | 18               | :              |     |    |     |    |     |    |     |    | 0   |    |     |    | 1   |    |     | 2     | 0.  |
| 7 -     | 12               | :              | 2   | 1  | 3   | 1  | 1   | 1  | 2   | 2  | 2   | 7  | 2   | 1  | 1   | 1  | 1   | 29    | 7.  |
| 3 -     | 7                | :              | 10  | 13 | 8   | 10 | 9   | 10 | 7   | 14 | 14  | 20 | 11  | 10 | 13  | 20 | 19  | 207   | 47. |
| LT      | 3                | :              | 15  | 13 | 13  | 13 | 4   | 13 | 13  | 12 | 16  | 6  | 6   | 14 | 12  | 17 | 17  | 205   | 46. |
| TOTAL   |                  | :              | 27  | 27 | 25  | 24 | 14  | 24 | 21  | 28 | 38  | 33 | 19  | 25 | 27  | 38 | 37  | 444   |     |
| PERCENT |                  | :              | 6.  | 6. | 6.  | 5. | 3.  | 5. | 6.  | 8. | 9.  | 7. | 4.  | 6. | 6.  | 9. | 8.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 42( 9.46 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL =200 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - B

| GROUP MAX SPEED<br>MPH | N  | NNE | NE | ENE | E  | ESE | SE | SSE | WIND DIRECTION |     |    |     |    |     |     |      | NNW | NW  | TOTAL | %    |
|------------------------|----|-----|----|-----|----|-----|----|-----|----------------|-----|----|-----|----|-----|-----|------|-----|-----|-------|------|
|                        | 10 | 6   | 6  | 12  | 8  | 4   | 9  | 11  | S              | SSW | SW | WSW | W  | WNW | NW  | NNW  |     |     |       |      |
| GT 24 :                |    |     |    |     |    |     |    |     |                |     |    |     |    |     |     |      |     |     |       | 0.   |
| 18 - 24 :              |    |     |    |     |    |     |    |     |                |     |    |     |    |     |     |      | 1 : |     | 1 :   | 0.   |
| 12 - 18 :              |    |     |    | 1   |    |     |    |     | 1              | 3   | 2  |     |    | 1   |     | 0 :  |     | 8 : |       | 3.   |
| 7 - 12 :               | 5  |     | 0  |     | 1  |     | 3  | 5   | 1              | 5   | 4  | 4   | 4  | 1   | 6   | 8 :  |     | 43  | 18.   |      |
| 3 - 7 :                | 8  | 8   | 6  | 3   | 4  | 5   | 5  | 7   | 15             | 8   | 8  | 5   | 5  | 7   | 14  | 15 : |     | 127 | 52.   |      |
| LT 3 :                 | 4  | 5   | 2  | 1   | 5  | 0   | 1  | 7   | 4              | 4   | 5  | 2   | 2  | 7   | 7   | 4 :  |     | 65  | 27.   |      |
| TOTAL :                | 17 | 13  | 8  | 5   | 10 | 5   | 9  | 19  | 16             | 21  | 20 | 19  | 11 | 16  | 27  | 28 : |     | 244 |       |      |
| PERCENT :              | 7. | 5.  | 3. | 2.  | 4. | 2.  | 4. | 8.  | 7.             | 9.  | 8. | 8.  | 5. | 7.  | 11. | 11.  |     |     |       | 100. |

..... TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 13( 5.33 %)



STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL =200 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - C

| STABILITY CLASS - C | GROUP MAX SPEED<br>MPH | N | NNE | NE | ENE | E | ESE | SE | WIND DIRECTION |   |     |    |     |   |     |    | NNW | TOTAL | % |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                     | GT 24                  | : |     |    |     |   |     |    |                |   |     |    |     |   |     |    |     |       |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 19( 3.28 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL #200 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - D

| GROUP MAX SPEED<br>MPH | WIND DIRECTION |     |    |     |    |     |    |     |    |     |     |     |     |     |     |     | TOTAL | %    |     |
|------------------------|----------------|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-------|------|-----|
|                        | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW  | WSW | W   | WNW | NW  | NNW |       |      |     |
| GT 24 :                | 17             | 16  | 17 | 10  | 13 | 14  | 15 | 19  | 28 | 32  | 28  | 27  | 23  | 21  | 29  | 3   | 1     | 53   | 3.  |
| 18 - 24 :              |                |     |    |     |    |     |    | 1   | 8  | 51  | 45  | 10  | 2   | 6   | 16  | 8   | 1     | 147  | 9.  |
| 12 - 18 :              | 22             | 4   | 5  |     | 3  | 1   | 1  | 8   | 21 | 50  | 48  | 31  | 18  | 6   | 35  | 32  | 1     | 285  | 18. |
| 7 - 12 :               | 42             | 12  | 16 | 8   | 5  | 3   | 14 | 17  | 24 | 42  | 43  | 39  | 24  | 38  | 105 | 75  | 1     | 507  | 32. |
| 3 - 7 :                | 38             | 14  | 8  | 15  | 13 | 21  | 27 | 24  | 23 | 19  | 18  | 19  | 43  | 45  | 41  | 32  | 1     | 400  | 26. |
| LT 3 :                 | 10             | 3   | 1  | 11  | 11 | 7   | 13 | 7   | 11 | 7   | 11  | 12  | 18  | 21  | 18  | 14  | 1     | 175  | 11. |
| TOTAL :                | 112            | 33  | 30 | 34  | 32 | 32  | 55 | 57  | 95 | 198 | 174 | 115 | 105 | 116 | 218 | 161 | 1     | 1567 |     |
| PERCENT :              | 7.             | 2.  | 2. | 2.  | 2. | 2.  | 4. | 4.  | 6. | 13. | 11. | 7.  | 7.  | 7.  | 14. | 10. | 1     | 100. |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 31( 1.98 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL ±200 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - E

| GROUP MAX SPEED<br>MPH | N   | NNE | NE  | ENE | E  | ESE | SE  | SSE | WIND DIRECTION |     |     |     |     |      |     |     | NNW  | NW  | W | WNNW | TOTAL | % |
|------------------------|-----|-----|-----|-----|----|-----|-----|-----|----------------|-----|-----|-----|-----|------|-----|-----|------|-----|---|------|-------|---|
|                        |     |     |     |     |    |     |     |     | S              | SSW | SW  | WSW | W   | WNNW | NW  | NNW |      |     |   |      |       |   |
| GT 24 :                | 2   |     |     |     |    |     |     | 1   | 14             | 41  | 17  | 4   |     |      | 10  | 8   | 97   | 2.  |   |      |       |   |
| 18 - 24 :              | 11  | 5   | 3   | 4   |    | 1   | 12  | 15  | 36             | 77  | 75  | 20  | 6   | 6    | 29  | 19  | 319  | 8.  |   |      |       |   |
| 12 - 18 :              | 56  | 25  | 13  | 9   | 4  | 9   | 42  | 46  | 126            | 108 | 132 | 44  | 22  | 8    | 52  | 83  | 779  | 20. |   |      |       |   |
| 7 - 12 :               | 99  | 31  | 37  | 22  | 17 | 41  | 99  | 99  | 71             | 87  | 79  | 43  | 44  | 74   | 170 | 129 | 1142 | 29. |   |      |       |   |
| 3 - 7 :                | 68  | 20  | 25  | 17  | 36 | 98  | 186 | 102 | 62             | 34  | 34  | 33  | 83  | 102  | 118 | 59  | 1077 | 27. |   |      |       |   |
| LT 3 :                 | 34  | 19  | 27  | 28  | 23 | 39  | 48  | 33  | 34             | 19  | 37  | 23  | 30  | 41   | 35  | 38  | 508  | 13. |   |      |       |   |
| TOTAL :                | 270 | 100 | 105 | 80  | 80 | 188 | 387 | 296 | 343            | 366 | 374 | 167 | 185 | 231  | 414 | 336 | 3922 |     |   |      |       |   |
| PERCENT :              | 7.  | 3.  | 3.  | 2.  | 2. | 5.  | 10. | 8.  | 9.             | 9.  | 10. | 4.  | 5.  | 6.   | 11. | 9.  | 100. |     |   |      |       |   |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 117( 2.98 %)

STABILITY WIND ROSE DIAGRAM

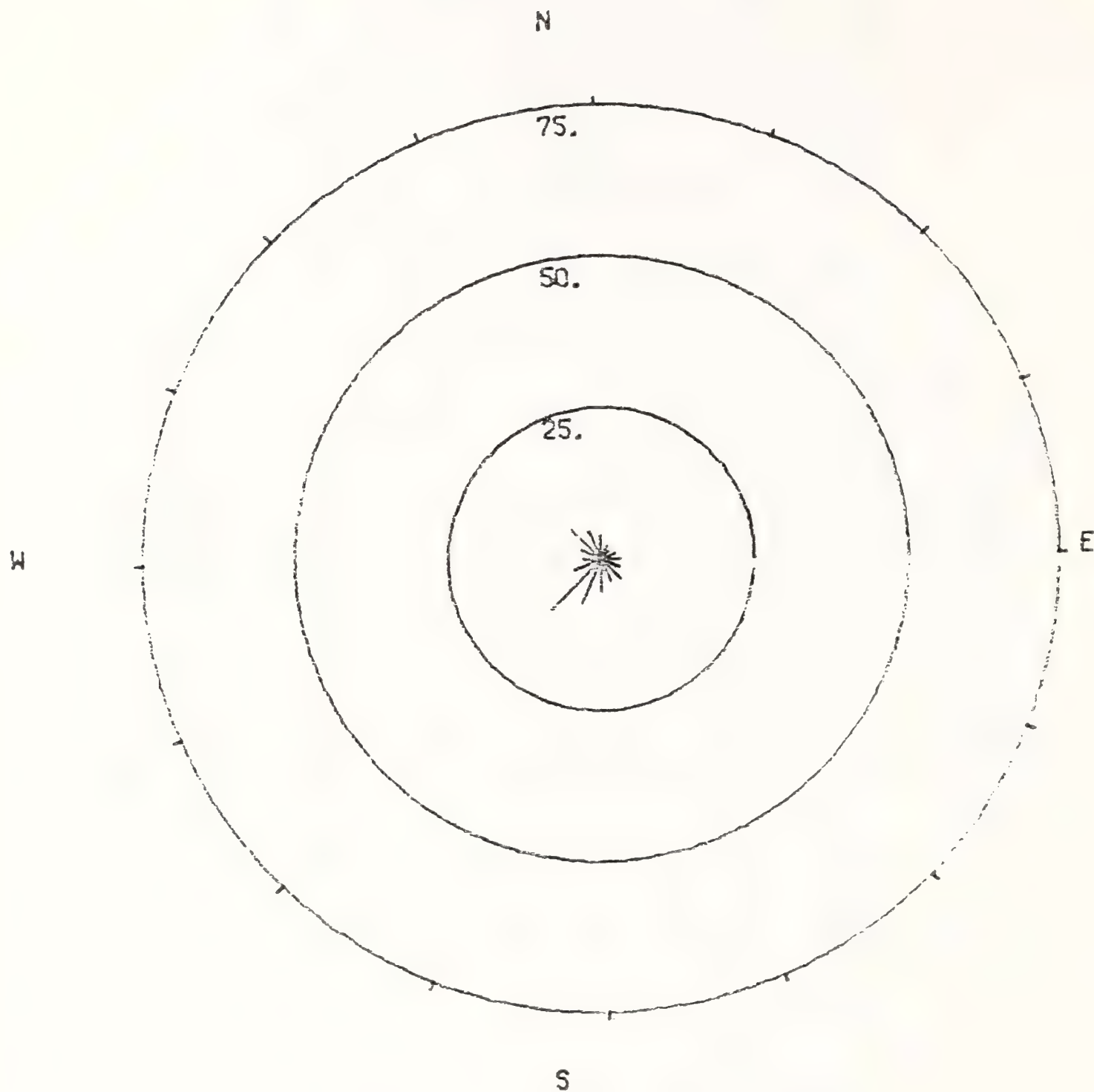
C-B SHALE OIL PROJECT  
LEVEL #200 FEET PERIOD( 4/ 1/77 TO 4/30/77)

STABILITY CLASS - TOTAL

| GROUP   | MAX SPEED<br>MPH | WIND DIRECTION |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | TOTAL | %   |
|---------|------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
|         |                  | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW |       |     |
| GT      | 24               | 2              |     |     |     |     |     |     | 1   | 22  | 71  | 26  | 8   |     |     | 13  | 8   | 151   | 2.  |
| 18 -    | 24               | 11             | 5   | 3   | 4   |     | 1   | 12  | 16  | 44  | 130 | 129 | 32  | 9   | 12  | 45  | 28  | 481   | 7.  |
| 12 -    | 18               | 83             | 30  | 19  | 10  | 7   | 10  | 43  | 57  | 152 | 177 | 197 | 80  | 41  | 17  | 92  | 121 | 1136  | 17. |
| 7 -     | 12               | 164            | 50  | 62  | 35  | 24  | 45  | 121 | 127 | 102 | 150 | 148 | 100 | 81  | 123 | 310 | 237 | 1879  | 28. |
| 3 -     | 7                | 150            | 66  | 54  | 50  | 77  | 145 | 235 | 157 | 124 | 105 | 91  | 80  | 153 | 191 | 224 | 155 | 2057  | 30. |
| LT      | 3                | 73             | 52  | 55  | 60  | 49  | 63  | 76  | 69  | 82  | 52  | 62  | 53  | 72  | 93  | 93  | 80  | 1084  | 16. |
| TOTAL   |                  | 483            | 203 | 193 | 159 | 157 | 264 | 487 | 427 | 526 | 685 | 653 | 353 | 356 | 436 | 777 | 629 | 6788  |     |
| PERCENT |                  | 7.             | 3.  | 3.  | 2.  | 2.  | 4.  | 7.  | 6.  | 8.  | 10. | 10. | 5.  | 5.  | 6.  | 11. | 9.  | 100.  |     |

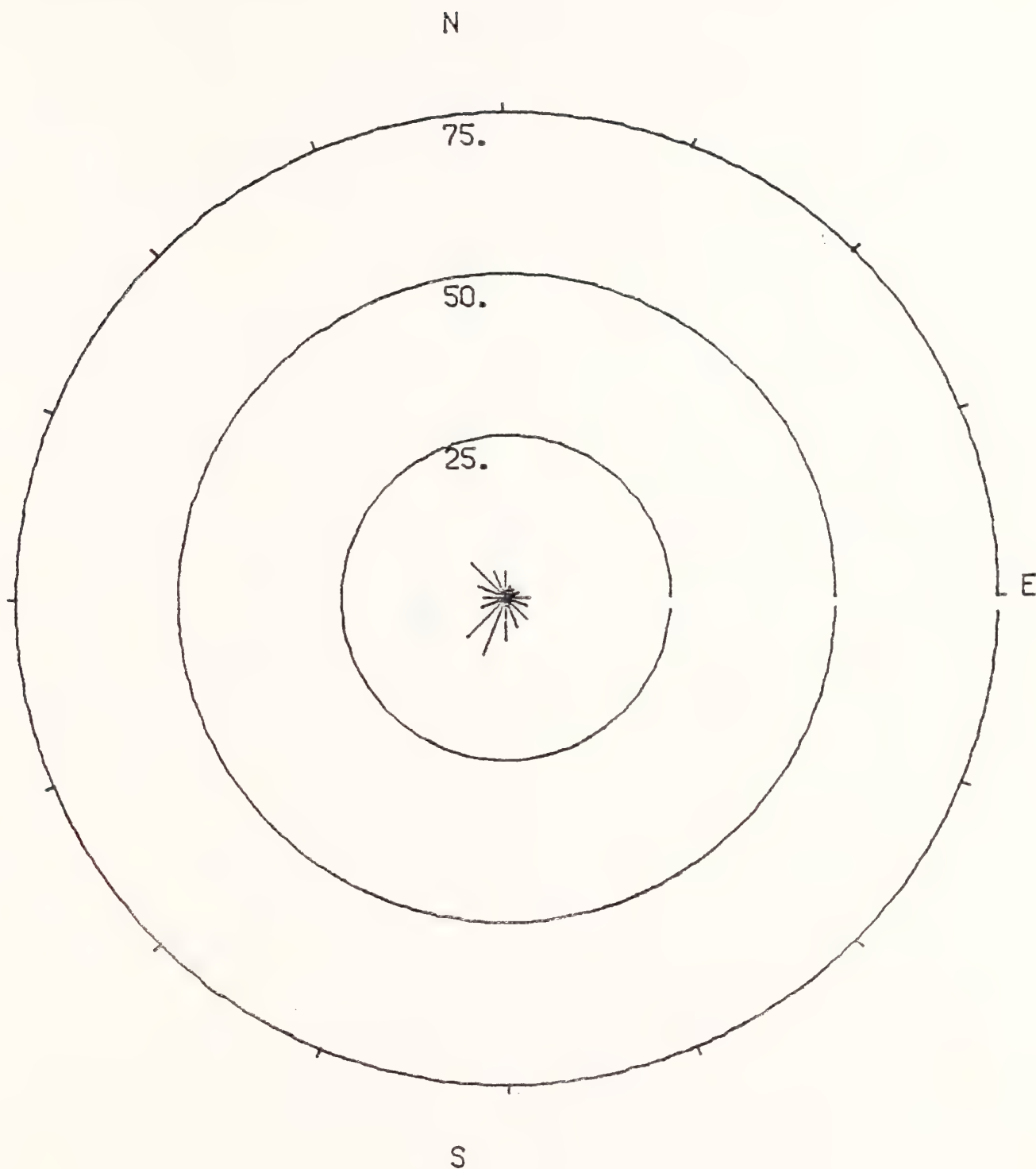
TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 222( 3.27 %)

|                 |             |         |
|-----------------|-------------|---------|
| PERCENTAGE OF A | STABILITY - | 6.54 %  |
| PERCENTAGE OF B | STABILITY - | 3.59 %  |
| PERCENTAGE OF C | STABILITY - | 8.54 %  |
| PERCENTAGE OF D | STABILITY - | 23.08 % |
| PERCENTAGE OF E | STABILITY - | 57.78 % |

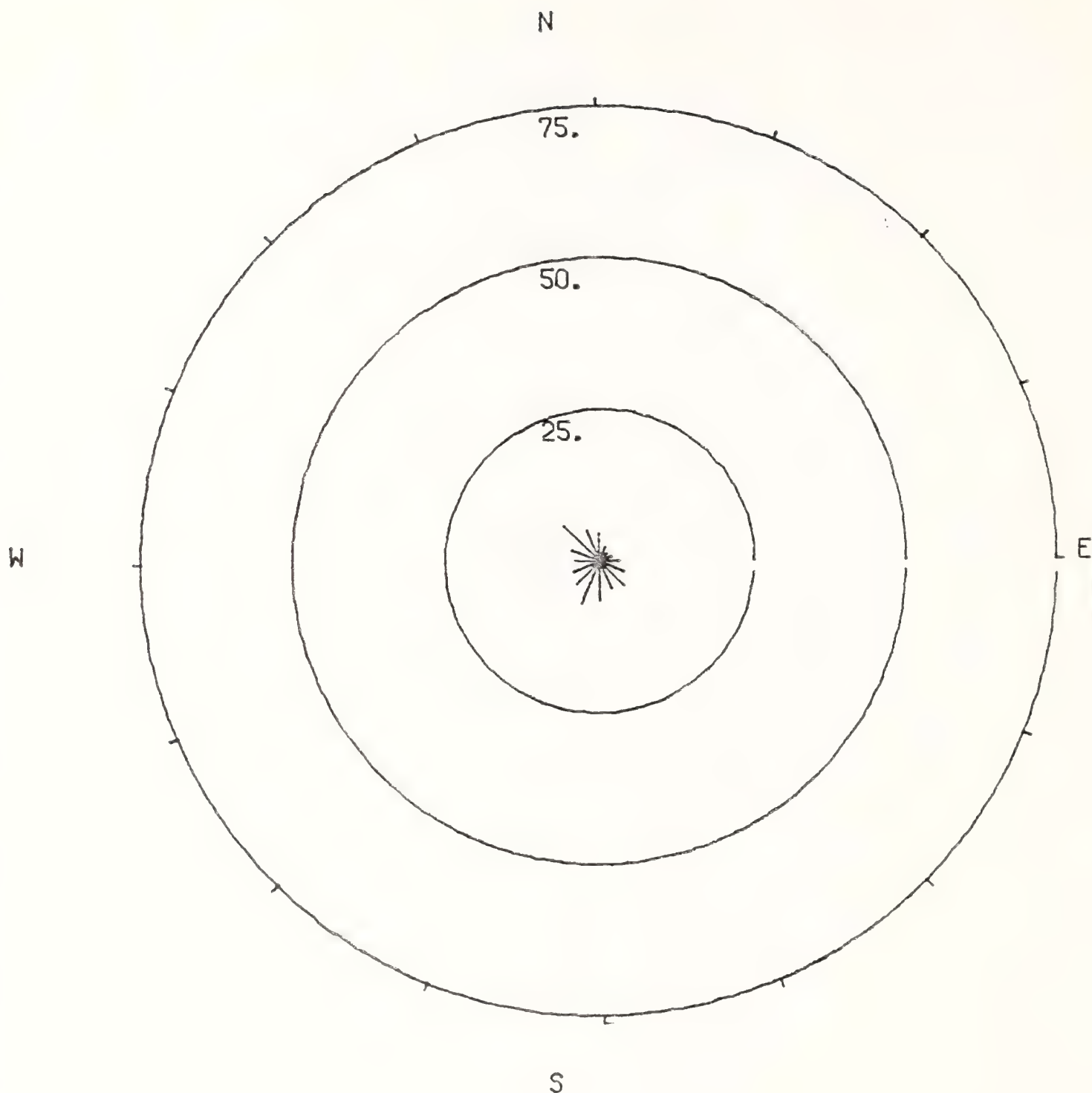


PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 8 FOOT LEVEL

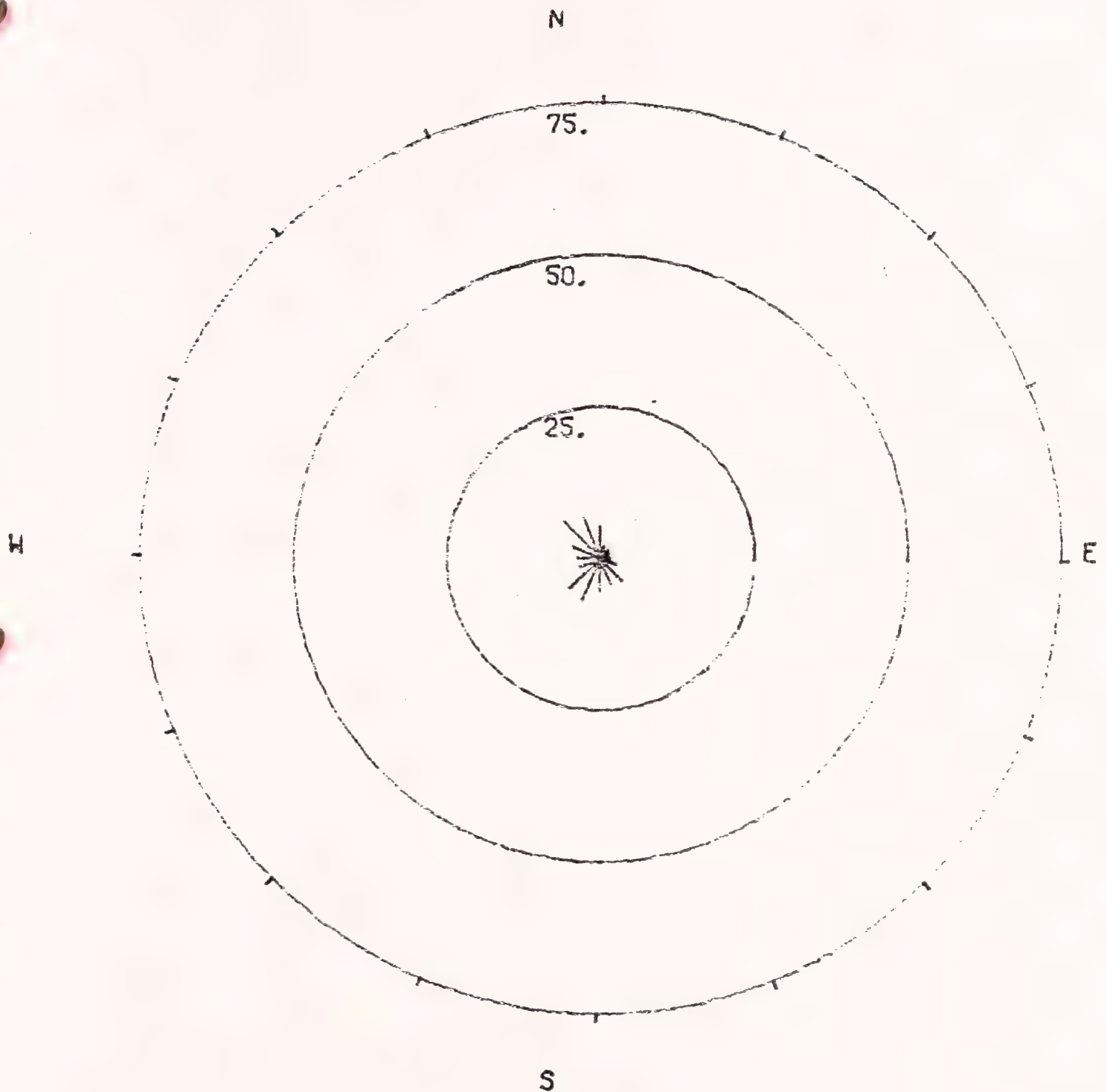




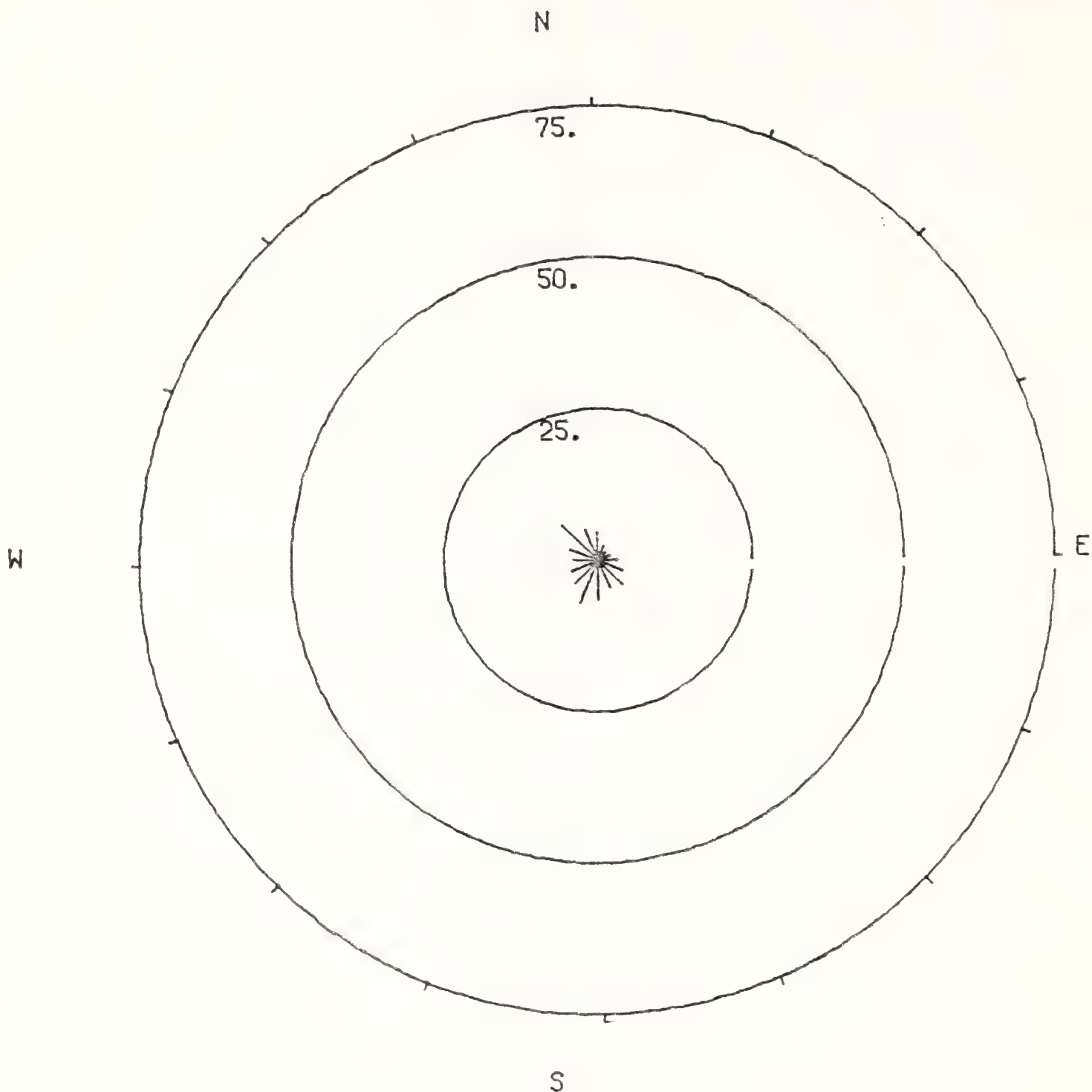
PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 30 FOOT LEVEL



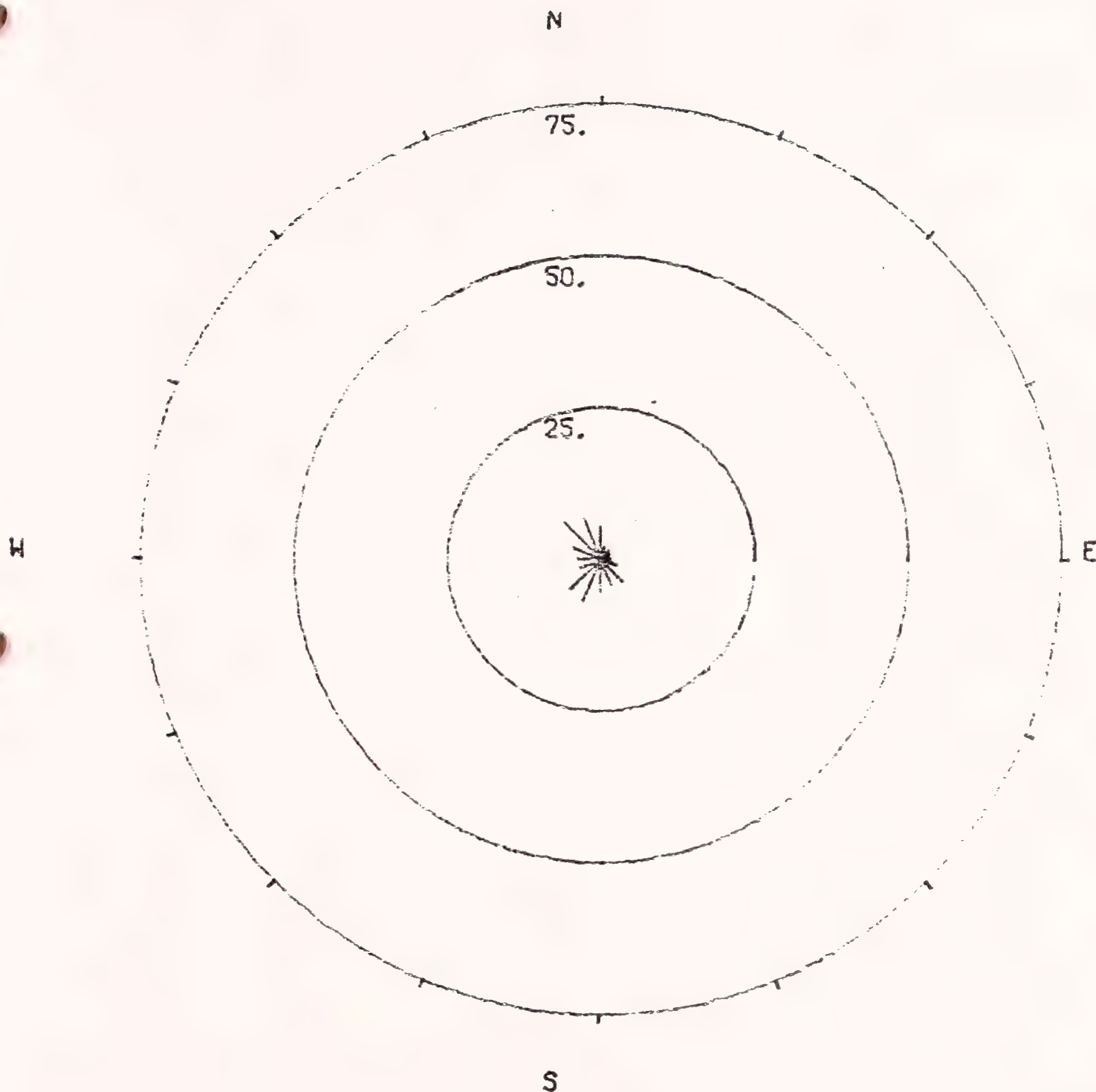
PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 100 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 200 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 100 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 200 FOOT LEVEL



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# **RADIAN**

## **CORPORATION**

DCN 77-100-152-04

AIR MONITORING REPORT  
FOR  
C-b SHALE OIL PROJECT  
MAY 1977  
Report No. 33

22 July 1977

Presented to:  
C-b Shale Oil Project  
United Bank Tower  
Denver, Colorado 80202

Prepared by:  
Radian Staff

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| Total Hydrocarbons-----                  | -1585       |
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| Carbon Monoxide-----                     | -1585       |
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|          | Pyranometer-----   | -1589     |
|          | Sulfur Dioxide (SO <sub>2</sub> )-----                                   | -1589     |
|          | Total Hydrocarbons-----  | -1590     |
|          | Methane-----   | -1590     |
|          | Non-Methane Hydrocarbons-----  | -1590     |
|          | Carbon Monoxide-----   | -1591     |
|          | Ozone-----   | -1591     |
|          | Barometric Pressure-----   | -1591     |
|          | Total Precipitation-----   | -1592     |
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|          | Sulfur Dioxide (SO <sub>2</sub> )-----                                   | -1602     |
|          | Total Hydrocarbons-----  | -1603     |
|          | Methane-----   | -1604     |
|          | Non-Methane Hydrocarbons-----  | -1605     |
|          | Carbon Monoxide-----   | -1606     |
|          | Ozone-----   | -1607     |
|          | Barometric Pressure-----   | -1608     |

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| Wind Speed - Wind Direction----- | -1610     |
| Temperature-----                 | -1611     |

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FOR MAY 1 THRU 31

|                               |       |
|-------------------------------|-------|
| Nitrogen Oxides-----          | -1613 |
| Nitric Oxide-----             | -1613 |
| Nitrogen Dioxide-----         | -1613 |
| Sulfur Dioxide-----           | -1614 |
| Total Hydrocarbons-----       | -1615 |
| Methane-----                  | -1616 |
| Non-Methane Hydrocarbons----- | -1617 |
| Carbon Monoxide-----          | -1618 |
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| Ozone-----                    | -1620 |
| Particulate-----              | -1621 |

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UPON WIND DIRECTION

|  |       |
|--|-------|
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| Nitric Oxide-----                        | -1624 |
| Nitrogen Dioxide (NO <sub>2</sub> )----- | -1625 |
| Sulfur Dioxide (SO <sub>2</sub> )-----   | -1626 |
| Sulfur Dioxide (SO <sub>2</sub> )-----   | -1627 |
| Total Hydrocarbons-----                  | -1628 |
| Methane-----                             | -1629 |
| Non-Methane Hydrocarbons-----            | -1630 |
| Carbon Monoxide-----                     | -1631 |
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|            | Sulfur Dioxide-----  | -1637     |
|            | Total Hydrocarbons-----  | -1639     |
|            | Methane-----   | -1640     |
|            | Non-Methane Hydrocarbons-----                                    | -1641     |
|            | Carbon Monoxide-----   | -1642     |
|            | Ozone-----   | -1643     |
|            | Precipitation-----   | -1644     |
|            | Wind Speed   |           |
|            | 8 feet-----  | -1645     |
|            | 30 feet-----   | -1646     |
|            | 100 feet-----  | -1647     |
|            | 200 feet-----  | -1648     |
|            | Wind Direction   |           |
|            | 8 feet-----  | -1649     |
|            | 30 feet-----   | -1650     |
|            | 100 feet-----  | -1651     |
|            | 200 feet-----  | -1652     |
|            | Wind Direction Standard Deviation                                |           |
|            | 8 feet-----  | -1653     |
|            | 30 feet-----   | -1654     |
|            | 100 feet-----  | -1655     |
|            | 200 feet-----  | -1656     |
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|            | Temperature  |           |
|            | 8 feet-----  | -1658     |
|            | 30 feet-----   | -1659     |
|            | 100 feet-----  | -1660     |
|            | 200 feet-----  | -1661     |

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| Horizontal Bi-Vane Wind Direction at<br>200 feet----- | -1666     |
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| Nitric Oxide-----                                     | -1669     |
| Nitrogen Dioxide-----                                 | -1670     |
| Sulfur Dioxide-----                                   | -1671     |
| Sulfur Dioxide-----                                   | -1672     |
| Total Hydrocarbons-----                               | -1673     |
| Methane-----  | -1674     |
| Non-Methane Hydrocarbons-----                         | -1675     |
| Carbon Monoxide-----                                  | -1676     |
| Ozone-----  | -1677     |
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| Wind Speed at 8 feet-----                             | -1679     |
| 30 feet-----  | -1680     |
| 100 feet-----   | -1681     |
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| 30 feet-----  | -1684     |
| 100 feet-----   | -1685     |
| 200 feet-----   | -1686     |
| Temperature at 8 feet-----                            | -1687     |
| 30 feet-----  | -1688     |
| 100 feet-----   | -1689     |
| 200 feet-----   | -1690     |
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| Class D-----                                   | -1728     |
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| Total-----                                     | -1730     |
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| Class B-----                                   | -1732     |
| Class C-----                                   | -1733     |
| Class D-----                                   | -1734     |
| Class E-----                                   | -1735     |
| Total-----                                     | -1736     |
| 100-foot level - Stability Class A-----        | -1737     |
| Class B-----                                   | -1738     |
| Class C-----                                   | -1739     |
| Class D-----                                   | -1740     |
| Class E-----                                   | -1741     |
| Total-----                                     | -1742     |
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| 100-foot level-----                        | -1751     |
| 200-foot level-----                        | -1752     |

I. GENERAL DESCRIPTION OF AIR MONITORING PROGRAM

Radian Corporation, under contract to the C-b Oil Shale Project, is performing the data compilation and reporting of air quality and meteorological data at one monitoring site in Northwest Colorado. The site measures and records concentrations of particulates, sulfur dioxide, oxides of nitrogen, hydrogen sulfide, total hydrocarbons, methane, and carbon monoxide. A 200-foot meteorological tower provides wind direction, wind speed, temperature, and relative humidity data at four levels (8, 30, 100, and 200 feet). Other meteorological variables measured at the tower site are insolation, barometric pressure, and precipitation.

Figure I shows the configuration of the monitoring station. The station provides a sturdy and protective covering for the monitoring equipment.

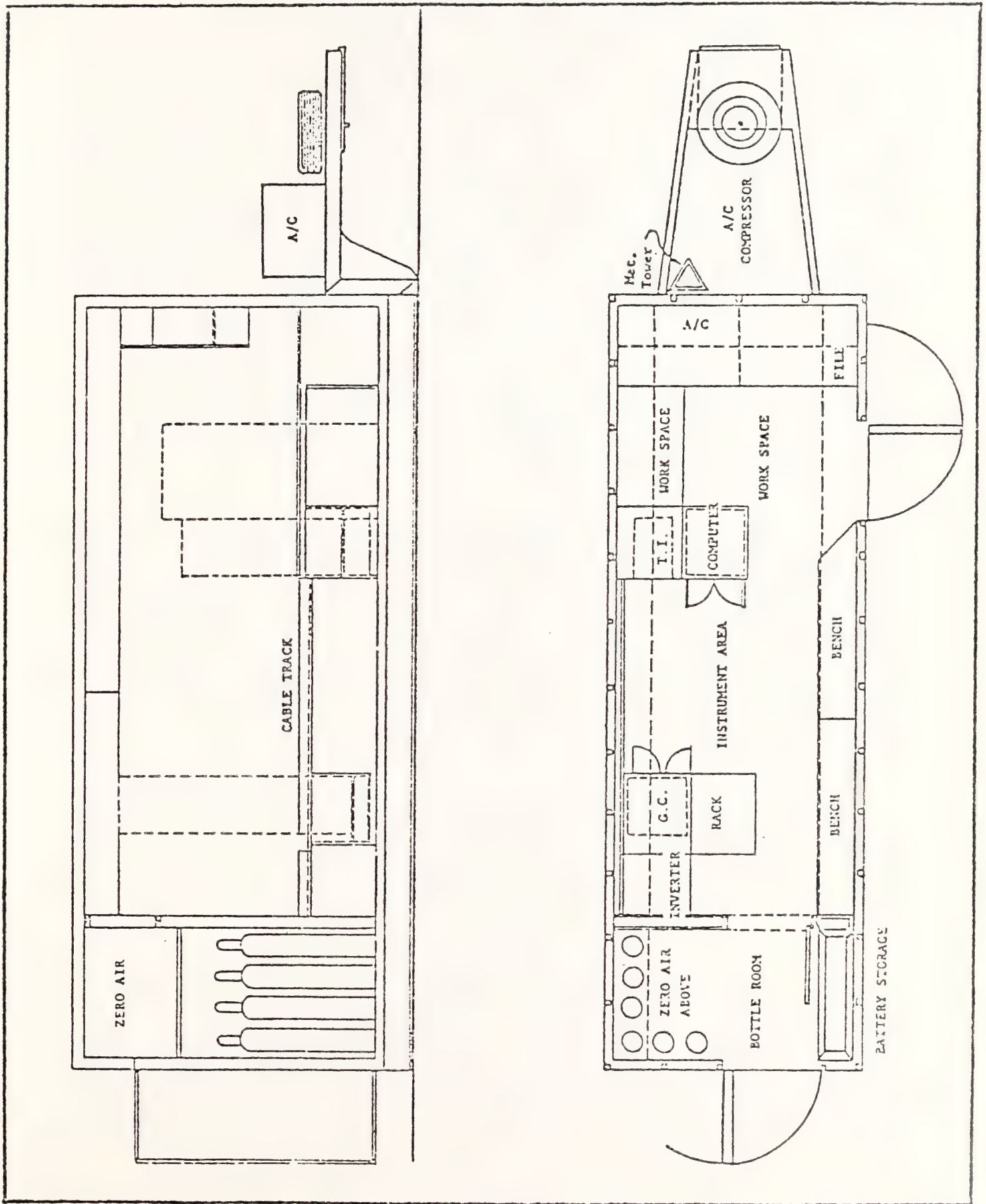


FIGURE I. CONFIGURATION OF MONITORING STATION

## II. DESCRIPTION OF INSTRUMENT SYSTEMS

### A. Air Quality Instrumentation

Nitrogen oxides are measured with a Meloy Model NA520 analyzer. This dual-channel analyzer is based on the chemiluminescent principle and continuously monitors both  $\text{NO}_x$  and  $\text{NO}$ . A subtraction circuit in the instrument provides a continuous  $\text{NO}_2$  output, but is not used in Radian's system.  $\text{NO}_2$  is calculated once a second by the computer by subtracting the  $\text{NO}$  value from the  $\text{NO}_x$  value, thus avoiding any drift which might occur in the  $\text{NO}_2$  output of the instrument. This instrument has a minimum detectable sensitivity of 5 ppb (parts per billion) and a linearity of  $\pm 1\%$ .

Both sulfur dioxide and hydrogen sulfide are measured with Meloy Model SA185 sulfur analyzers. The hydrogen sulfide analyzer uses a Meloy Model  $\text{NO}_x$ -1 sulfur dioxide scrubber and the sulfur dioxide analyzer uses a Meloy Model  $\text{H}_2\text{S}$ -1 hydrogen sulfide scrubber. The Model SA185 is a continuous analyzer and utilizes the flame photometric principle of operation. The minimum detectable sensitivity is 5 ppb and the linearity is  $\pm 1\%$ .

Ozone is measured with a Meloy Model OA350 analyzer. This instrument, based on the chemiluminescent principle, provides continuous measurement of ozone. The minimum detectable sensitivity is 0.5 ppb and the linearity is  $\pm 1\%$ .

Total hydrocarbons, methane, and carbon monoxide are monitored with a Bendix Model 8200 gas chromatograph analyzer. This instrument, which uses a plume ionization detector, has a minimum detectable sensitivity of 5 ppb for all three components. The Model 8200 works on a five-minute cycle, i.e., one air sample is analyzed every five minutes, and the results are displayed for five minutes via a sample and hold circuit.



The air sample is drawn in through a glass cane and manifold supplied by the Ace Glass Company. The system has a 25mm diameter, through which a constant air flow is provided by an air pump rated at 60 cfm at 0" head pressure. The manifold has sampling ports to which 1/4" teflon lines to the instrument are connected. All joints in the sampling system are secured by O-ring compression fittings. The manifold is contained in a heated (100°F) chamber to prevent condensation of moisture. The teflon lines from the manifold to the instruments are insulated with 1/8" wall thickness rubber tubing.

The trailer has four heavy duty high volume particulate samplers (Hi-Vols). Fiberglass filter paper is used for the collection of particulate samples, after which each filter is brought to a controlled humidity before weighing. Each Hi-Vol has a flow recorded to permit correction for changes in air flow as the filter becomes loaded with particulates. Each Hi-Vol runs for a 24-hour period (midnight to midnight) and is turned on and off by the computer. The Hi-Vols, which were manufactured by Radian, were designed following guidelines recommended by the Environmental Protection Agency.

In addition to the normal Hi-Vol particulate samples, a duplicate Hi-Vol sample is collected every sixth day on special filter paper for trace element analysis. Once each quarter these samples are composited and analyzed for gross radioactivity and trace element content.

#### B. Calibration Procedures

The trailer contains a Meloy Model RAD-1 calibration unit. This instrument provides a zero air supply, SO<sub>2</sub> span gas from an SO<sub>2</sub> permeation tube, and NO span gas obtained by precisely

diluting bottled NO span gas. The computer-controlled calibration of all instruments is automatically performed once a day. Each instrument is first switched to zero; the computer monitors the output of each channel and takes a new zero reading after a stable zero signal has been reached. This zero reading is compared by the computer to the zero reading obtained 24 hours before, and if a drift in excess of 10 ppb has occurred, an excess zero drift light for the channel in question is turned on on the System Status Panel. Next, span gas is supplied to each channel and the computer decides when a stable span value has been reached. This value is recorded and compared to the previous day's value. An excess span drift light on the System Status Panel is turned on if a drift exceeding 10 ppb occurs. The instruments are then returned to the monitor mode and after two minutes the computer resumes data taking.

The bottled NO gas used at each site was obtained from Precision Gas Products. Pre-purified grade hydrogen is used in the SO<sub>2</sub> analyzers.

The SO<sub>2</sub> permeation tubes were manufactured by Metronics Association, Inc. Their output has been verified by comparison to the output of National Bureau of Standards tube 10-42. Both SA185 analyzers in each trailer are calibrated with the SO<sub>2</sub> from the permeation tube. This instrument responds to the number of sulfur atoms per molecule; thus, SO<sub>2</sub> can be used to calibrate both the H<sub>2</sub>S and SO<sub>2</sub> monitors.

The Model OA350 ozone analyzer has its own calibration system which provides a zero check and a span check. The ozone calibration system is verified by comparison to a calibrated ozone generator maintained in Radian's laboratory in Rifle.

The Model 8200 total hydrocarbon, methane, and carbon monoxide analyzer is calibrated with undiluted span gas obtained from AirCo's Rare and Specialty Gas Division. This span gas contains methane and carbon monoxide in air, the methane being used to calibrate both the total hydrocarbon channel and the methane channel. The Model 8200 is zeroed with air from a Bendix Model 8834 zero air unit. In addition, the instrument is electronically re-zeroed at the start of every five-minute cycle.

The Hi-Vol particulate samplers were calibrated using a Calibration Kit from General Metal Works.

#### C. Data Acquisition System

The basis of the data acquisition system is a Data General NOVA 1200 minicomputer. The NOVA, which has a basic cycle time of 1.2  $\mu$ sec, is equipped with automatic program load and power fail/automatic restart features. The computer utilizes 16K 16-bit words of core memory. Analog-to-digital conversion is accomplished via an ADC built by Radian Corporation. The input/output unit for the system is Texas Instrument's KSR 733 keyboard/printer. This model teletype provides keyboard entry and hardcopy printed output. The data are also recorded on a cassette magnetic tape unit with three drives. The cassette unit is utilized for program storage and loading as well as for recording. To reduce wear on mechanical parts, the power to the teletype and cassette units is turned on only when the unit(s) is (are) to be used. Several important functions in the instruments as well as in the computer and the trailer are monitored by means of lights on a System Status Panel. These data lights are written onto cassette tape to monitor the complete status of the system every five minutes. The Data Acquisition System also monitors the presence of 100V power from the power lines. In its absence, the computer, which is powered by batteries, switches all trailer



systems to battery-provided power. If the line voltage is restored before the batteries are discharged to a specified level, the trailer system is switched back to line power.

D. Meteorological Instrumentation

200-Foot Meteorological Tower

The tower has instrumentation at four levels: 8 feet, 30 feet, 100 feet, and 200 feet. At all four levels, there are: wind speed, wind direction, and temperature and relative humidity sensors in a power-aspirated radiation shield. Temperature difference thermistors (also in power-aspirated radiation shields) and their associated circuitry take lapse rate measurements for the 30-foot to 100-foot layer and the 30-foot to 200-foot layer. In addition, this site has a Precision Spectral Pyranometer, a barometer, and a tipping bucket rain/snow gage.

The wind direction and speed apparatus used at each measurement level of the tower is the Model 1074-2 wind sensor by Meteorological Research, Inc. (MRI). This sensor has a 540° potentiometer for wind direction and a light chopper for wind speed. This sensor is rugged, with an all-weather coaxial cup and damped vane assembly. The prototype model has been in operation for years under the most demanding weather conditions, performing continuously with the utmost reliability. The wind sensors on the tower have been specially treated with a black paint which will promote warming of the exposed surfaces of the sensor and thereby reduce ice and snow accumulations on the moving parts of the apparatus. The specifications on the Model 1074-2 are as follows:

Wind Speed

- . Starting Threshold: 0.75 mph.
- . Response Distance: 18 feet (63% recovery).
- . Flow Coefficient: 7.9 feet/Revolution.
- . Accuracy:  $\pm 0.4$  mph or 1% (whichever is greatest)

Wind Direction

- . Starting Threshold: 0.75 mph.
- . Delay Distance: 4 feet (50% recovery).
- . Damping Ratio: 0.5 to 0.6.
- . Accuracy ( $540^\circ$  system):  $\pm 1\%$ .
- . Range:  $0^\circ$  to  $540^\circ$ .

The relative humidity and temperature sensors are mounted within a power-aspirated radiation shield at each tower level. All aspirators and sensors are of the Model 840 Series by MRI. The aspirated shielded housing is designed to provide maximum radiation protection to the sensor. Ambient air is drawn into the shield and across the sensors at approximately 15 feet per second. This intake air is essentially sampled from a hemispherical space which is approximately 3-inch radius from the tube opening. Speed of the incoming air at the periphery of this hemisphere is approximately 1 mph.

The temperature sensor is comprised of a dual thermistor and resistor network. This circuit provides a linear resistance change with an air temperature change. The relative humidity sensor is placed alongside the temperature elements inside the shield where it is exposed to a constant flow of air. Circulation to both sides of the sensing element produces accurate monitoring with a good response time. The specifications on the sensing elements are as follows:



Temperature

- . Accuracy:  $\pm 0.25^{\circ}\text{C}$ .
- . Range:  $-50^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ .

Humidity

- . Accuracy:  $\pm 3.0\%$  RH.
- . Range: 0% to 100% Relative Humidity.

Measurements of temperature difference are taken for two layers, the 30-foot to 100-foot and the 30-foot to 200-foot layer. The thermistors and circuitry used for these measurements are separate from the thermistors measuring air temperature. The use of separate thermistors and circuitry to measure  $\Delta T$  allows for much greater accuracy and resolution in the measurements, which is necessary for stability assessments. Two  $\Delta T$  thermistors are at the 30-foot level, one is at the 100-foot level, and one is at the 200-foot level. All of these  $\Delta T$  thermistors are mounted within power-aspirated radiation shields. The specifications on the  $\Delta T$  instrumentation are as follows:

- . Accuracy:  $\pm 0.1^{\circ}\text{C}$ .
- . Range of  $\Delta T$  Circuit (Lower Level-Upper Level):  
 $+9\text{F}^{\circ}$  to  $-9\text{F}^{\circ}$ .

All instrumentation, except at the ground level, is mounted at the end of 12-foot retractable booms. These booms are 3-inch box beams which are on rollers and can be retracted to the instrument platforms for instrument maintenance.

The meteorological tower itself is a 200-foot Rohn Model 80 Guyed Tower, designed for 40 pounds per square foot wind load with  $\frac{1}{2}$ " of radial ice per EIA Standard RS-222-B, to

support four levels of meteorological equipment. The material consists of tower sections with a tapered base, three retractable booms 12-feet long, three outside work platforms, an inside ladder for climbing, two base ground kits and one anchor ground kit. The cable-type Safety Climbing Device consists of a cable and attachment mechanisms with a locking sleeve and safety belt. The tower is lighted and painted according to FAA specifications.

The signals from the tower instrumentation are fed from multiple signal cables into transmitters mounted at the base of the tower. After signals have been converted to analog signals, they are fed into a junction box, also at the tower base, where they are assimilated into one coaxial cable. The signals are then run underground within 3" PVC conduit to the A-to-D assembly, where they are processed. The transmitters are shielded and insulated from the elements. The signal cable is run underground in PVC conduit in order to minimize damage from the weather or from various rodents in the region.

The auxiliary equipment at the tower site consists of a heated tipping bucket rain/snow gage, an analog barometer, and a Precision Spectral Pyranometer. The rain/snow gage is the Model P511-E unit by Weather Measure. In the case of this gage, the durability and reliability of a tipping bucket gage are combined with heavy-duty electric heaters to make this an all-purpose precipitation sensor. This gage may be used to measure both snowfall and rainfall. An insulating cover of poly-vinyl chloride and a thermostatic control insure the proper gage temperature. The thermostatic control is adjustable from 0 to 35°C. Snow falling into the inlet funnel is melted. The resulting water (from rain or snow) drains into a precision tipping bucket mechanism which activates a mercury switch each time the bucket fills and tips. The gage is constructed of durable corrosion-resistant materials to provide many years of service. The

specifications for this gage are as follows:

- . Orifice: 8 inches.
- . Calibration: 0.01 inch.
- . Accuracy: 0.5% (Calibrated at 0.5 in/hr).
- . Sensor: Chrome-plated tipping buckets.
- . Switch: Mercury, 0.1-second closure.
- . Heat Control: Thermostat adjustment, 0 to 35°C.

The barometer is the B242 Analog Output Barometer by Weather Measure. This barometer provides an output voltage that is linearly proportional to pressure. The specifications on this instrument, which is mounted inside the monitoring trailer at the site, are as follows:

- . Range: Specially designed for the 100 millibar interval from 725 millibars to 825 millibars.
- . Resolution: Infinite.
- . Linearity:  $\pm 0.5$  millibar, over the 100 millibar interval.

The pyranometer at the site is the Eppley Precision Spectral Pyranometer. This instrument is used for the measurement of sun and sky radiation totally or in defined wavelength bands. The pyranometer is levelled and mounted atop a wooden stand  $4\frac{1}{2}$  feet from the ground surface. Care has been taken to eliminate the effects from all outside influences, such as reflection or shadows, on the pyranometer. The instrument characteristics are as follows:

- . Sensitivity: 5 mv. per cal/cm<sup>2</sup>/min.
- . Independence: 300 ohms.
- . Temperature dependence: Sensitivity constant to within  $\pm 1$  percent over the ambient temperature range from -20 to +40°C.

- . Linearity: Response linear up to intensities of 4 cal/cm<sup>2</sup>/min.
- . Response time: 1 second (i/e signal).

All instrumentation is factory-calibrated and is field-calibrated at various intervals. Sling psychrometers are used to calibrate the humidity sensors; known temperatures and/or resistances are used to calibrate the thermistors; and an rpm calibrating unit is used to calibrate the anemometers. The wind direction instrumentation is aligned to true north (reference direction) by means of a surveyor's transit.



III. MICROMETEOROLOGICAL AND TERRAIN FEATURES

The Piceance Creek Valley and C-b Shale Oil Tract are situated such that many microscale meteorological phenomena affect the region where the ambient air monitoring unit is located. Trailer 023 and its associated 200-foot meteorological tower are located atop a plateau to the south of the valley, high enough to be affected mostly by gradient flow conditions.

The elevation at the meteorological tower site (Trailer 023) is 6940 feet above sea level. The largest gradients in elevation in this area, of course, occur at the Piceance Creek Valley walls. However, the northern valley walls are slightly steeper than those at the southern boundary of the valley, which then slopes upward gradually toward the C-b Tract. The Piceance Creek Valley decreases in elevation from east to west in this area, so that nighttime katabatic cold-air drainage flows advect from east to west.

Site 023 is approximately 2.5 miles south of the Piceance Creek Valley. This location is relatively high compared to its surroundings, with the nearest point having an elevation greater than 7000 feet being .5 miles to the south of the tower. The tower itself is on the top of a small knoll located between Scandard and Sorghum Gulches. Because of its location and the irregularities of the surrounding terrain, meteorological patterns are varied here.

Wind instrumentation is mounted at four levels of the meteorological tower: 8 feet, 30 feet, 100 feet, and 200 feet. The top level of the tower generally remains in gradient wind flow. That is, the winds at that level are normally generated



by synoptic-scale features and are usually separated from terrain features and micrometeorological circulations. Occasionally, a weak anabatic flow influence is experienced. However, such is not the case with the three lowest measurement levels. To varying degrees, these levels are influenced by both the katabatic and anabatic circulation cells. However, when strong pressure gradient forces exist in the region and the synoptic-scale wind flow is strong, all four tower levels will reflect a gradient wind flow as the winds increase in strength and height.

The terrain atop the plateau is generally barren and fairly rugged, with a few scattered small trees. The topsoil dries rapidly and is very fine, resulting in blowing dust when dry, windy conditions exist. In the Piceance Creek Valley, the terrain is fairly grassy and flat, with steep valley walls on either side. Surface winds are normally rather light in this valley unless channeling effects occur.

During clear nights with rather light pressure gradient-induced winds, rapid radiational cooling will occur in the region because of the barren nature of the terrain and the generally dry character of the air in this portion of the country. As a result, the diurnal range of temperatures will be extremely large. Because of the katabatic flow in the valley, nighttime temperatures will generally be lower in the valley than on the plateau. During the winter, especially, temperatures in the valley may be 20F° lower than they are on the plateau during the early morning hours.

IV. OPERATING TIME ANALYSIS FOR EACH SITE

This section presents the operating statistics for each of the major subsystems contained in the monitoring station. Table I shows the specific number of hours that each of these subsystems were inoperative for the month. The column labeled "DIGITIZING SYSTEM" indicates the entire data acquisition system; therefore, downtime hours appearing in this column means total loss of data. These instances include, in addition to computer downtime, power failures, no power available, and self-automated shutdown periods such as during air conditioner malfunctions.

Calibration time is not considered to be downtime and is, therefore, not included in the downtime figures. The amount of time used in calibrating the instruments is given at the bottom of the downtime analysis table and is reported as total calibration hours for each channel for the entire month. As is evident in the calibration figures, channels can be calibrated independently of one another. No calibration time is given for particulate monitoring since Hi-Vol calibration occurs infrequently and only during the off-duty cycle for each Hi-Vol while another Hi-Vol is taking data.

TABLE I.  
 DOWNTIME HOURS FOR C-8 SHALE OIL PROJECT

SITE 023

DIGITIZING

| DATE     | SYSTEM | NOX | NO  | SO2 | WS | WD | RH  | TOUT | PYR | SO2 | VOLT | THC | CH4 | CO  | O3  | PRES | RAIN | PART |
|----------|--------|-----|-----|-----|----|----|-----|------|-----|-----|------|-----|-----|-----|-----|------|------|------|
| 5/1      | 0.     | 16. | 16. | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 6.  | 6.  | 22. | 0.  | 0.   | 0.   | 0.   |
| 5/2      | 1.     | 3.  | 3.  | 0.  | 0. | 0. | 23. | 0.   | 0.  | 0.  | 0.   | 1.  | 1.  | 21. | 0.  | 0.   | 0.   | 0.   |
| 5/3      | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 9.  | 9.  | 22. | 0.  | 0.   | 0.   | 0.   |
| 5/4      | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 7.  | 7.  | 7.  | 0.  | 0.   | 0.   | 0.   |
| 5/5      | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/6      | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/7      | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/8      | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/9      | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/10     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/11     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/12     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/13     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 24.  |
| 5/14     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/15     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/16     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/17     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/18     | 0.     | 1.  | 1.  | 0.  | 0. | 0. | 24. | 0.   | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/19     | 0.     | 4.  | 4.  | 0.  | 0. | 0. | 24. | 12.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 24.  |
| 5/20     | 0.     | 5.  | 5.  | 0.  | 0. | 0. | 24. | 24.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/21     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 24.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/22     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 24.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 24.  |
| 5/23     | 0.     | 0.  | 0.  | 0.  | 7. | 7. | 24. | 24.  | 0.  | 0.  | 0.   | 2.  | 1.  | 0.  | 0.  | 0.   | 0.   | 0.   |
| 5/24     | 0.     | 0.  | 0.  | 0.  | 7. | 7. | 24. | 24.  | 0.  | 0.  | 0.   | 23. | 23. | 23. | 0.  | 0.   | 0.   | 0.   |
| 5/25     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 24.  | 0.  | 0.  | 0.   | 22. | 22. | 22. | 0.  | 0.   | 0.   | 0.   |
| 5/26     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 24.  | 0.  | 0.  | 0.   | 22. | 22. | 22. | 0.  | 0.   | 0.   | 0.   |
| 5/27     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 24.  | 0.  | 0.  | 0.   | 23. | 23. | 23. | 0.  | 0.   | 0.   | 0.   |
| 5/28     | 4.     | 0.  | 0.  | 0.  | 0. | 0. | 20. | 20.  | 0.  | 0.  | 0.   | 19. | 19. | 19. | 0.  | 0.   | 0.   | 24.  |
| 5/29     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 24.  | 0.  | 0.  | 0.   | 23. | 23. | 23. | 0.  | 0.   | 0.   | 0.   |
| 5/30     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 24.  | 0.  | 0.  | 0.   | 23. | 23. | 23. | 0.  | 0.   | 0.   | 0.   |
| 5/31     | 0.     | 0.  | 0.  | 0.  | 0. | 0. | 24. | 24.  | 0.  | 0.  | 0.   | 15. | 15. | 23. | 0.  | 0.   | 0.   | 0.   |
| CAL TIME |        | 21. | 21. | 19. | 0. | 0. | 0.  | 0.   | 0.  | 19. | 0.   | 33. | 33. | 34. | 19. | 0.   | 0.   |      |

TABLE I.  
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

DIGITIZING

| DATE     | DIGITIZING<br>SYSTEM | WS1 | WD1 | RH1 | TMP1 | WS2 | WD2 | RH2 | TMP2 | WS3 | WD3 | RH3 | TMP3 | WS4 | WD4 | RH4 | TMP4 | DT1 | DT2 |
|----------|----------------------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|-----|------|-----|-----|
| 5/1      | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/2      | 1.                   | 0.  | 0.  | 23. | 0.   | 0.  | 0.  | 23. | 0.   | 0.  | 0.  | 23. | 0.   | 0.  | 0.  | 23. | 0.   | 0.  | 0.  |
| 5/3      | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/4      | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/5      | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/6      | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/7      | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/8      | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/9      | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/10     | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/11     | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/12     | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/13     | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/14     | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/15     | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/16     | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/17     | 0.                   | 0.  | 0.  | 24. | 1.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/18     | 0.                   | 0.  | 0.  | 24. | 7.   | 0.  | 0.  | 24. | 2.   | 0.  | 0.  | 24. | 1.   | 0.  | 0.  | 24. | 1.   | 0.  | 0.  |
| 5/19     | 0.                   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  | 24. | 0.   | 0.  | 0.  |
| 5/20     | 0.                   | 0.  | 0.  | 24. | 12.  | 0.  | 0.  | 24. | 12.  | 0.  | 0.  | 24. | 12.  | 0.  | 0.  | 24. | 12.  | 12. | 12. |
| 5/21     | 0.                   | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 24. | 24. |
| 5/22     | 0.                   | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 24. | 24. |
| 5/23     | 7.                   | 0.  | 0.  | 17. | 17.  | 0.  | 0.  | 17. | 17.  | 0.  | 0.  | 17. | 17.  | 0.  | 0.  | 17. | 17.  | 17. | 17. |
| 5/24     | 7.                   | 0.  | 0.  | 17. | 17.  | 0.  | 0.  | 17. | 17.  | 0.  | 0.  | 17. | 17.  | 0.  | 0.  | 17. | 17.  | 17. | 17. |
| 5/25     | 0.                   | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 24. | 24. |
| 5/26     | 0.                   | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 24. | 24. |
| 5/27     | 0.                   | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 24. | 24. |
| 5/28     | 4.                   | 0.  | 0.  | 20. | 20.  | 0.  | 0.  | 20. | 20.  | 0.  | 0.  | 20. | 20.  | 0.  | 0.  | 20. | 20.  | 20. | 20. |
| 5/29     | 0.                   | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 24. | 24. |
| 5/30     | 0.                   | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 24. | 24. |
| 5/31     | 0.                   | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 0.  | 0.  | 24. | 24.  | 24. | 24. |
| CAL TIME |                      | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  | 0.  | 0.   | 0.  | 0.  |



TABLE I.  
DOWNTIME HOURS FOR C-B SHALE OIL PROJECT

SITE 023

| DATE     | BWS1 | HWD1 | VWD1 | BWS2 | HWD2 | VWD2 | BWS3 | HWD3 | VWD3 | WSD1 | WSD2 | WSD3 | WSD4 | HSD1 | VSD1 | HSD2 | VSD2 | HSD3 | VSD3 |
|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 5/ 1     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/ 2     | 23.  | 23.  | 23.  | 23.  | 23.  | 23.  | 23.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 23.  | 23.  | 23.  | 23.  | 0.   | 0.   |
| 5/ 3     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/ 4     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/ 5     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/ 6     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/ 7     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/ 8     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/ 9     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/10     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/11     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/12     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/13     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/14     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 1.   | 0.   |
| 5/15     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/16     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/17     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/18     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/19     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/20     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/21     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/22     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/23     | 17.  | 17.  | 17.  | 17.  | 17.  | 17.  | 17.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 17.  | 17.  | 17.  | 17.  | 0.   | 0.   |
| 5/24     | 17.  | 17.  | 17.  | 17.  | 17.  | 17.  | 17.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 17.  | 17.  | 17.  | 17.  | 0.   | 0.   |
| 5/25     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/26     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/27     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/28     | 20.  | 20.  | 20.  | 20.  | 20.  | 20.  | 20.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 20.  | 20.  | 20.  | 20.  | 0.   | 0.   |
| 5/29     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/30     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| 5/31     | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 24.  | 24.  | 24.  | 24.  | 0.   | 0.   |
| CAL TIME | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   | 0.   |



V. MONTHLY METEOROLOGICAL SUMMARY

A. Summary of the Meteorological Conditions over  
North America during May 1977

May 1977 brought warmer than normal temperatures to most of the continental United States. Precipitation totals were below normal over most of the country except for the Rockies and western sections of the country. The long wave circulatory pattern for May featured a trough in the western United States and a ridge in the eastern United States. The mean long wave trough was responsible for the slightly below normal temperatures and much above normal precipitation totals that occurred in the western United States. The mean long wave ridge accounted for the below normal precipitation totals and generally above normal temperatures which affected the eastern United States during May.

The long wave circulation was meridional (north-south) on all days during May except from the 26th through the 29th when it was split flow.

Extratropical low pressure systems were frequent in the United States during May. These low pressure systems usually affected the northern half of the country. The dates and locations of these low pressure systems were as follows:

|            |                       |
|------------|-----------------------|
| 4th:       | Northern Great Plains |
| 5th:       | Northern Great Lakes  |
| 6th:       | Great Basin           |
| 8th-9th:   | New England           |
| 10th:      | Upper New England     |
| 12th-13th: | Southwest             |
| 13th:      | Upper New England     |
| 15th:      | Great Plains          |

16th: Great Basin  
21st-22nd: Great Plains  
23rd: Pacific Northwest  
24th: Great Basin

On a sectional basis, the following temperature and precipitation anomalies existed during May.

| <u>Section</u>             | <u>Temperature</u>    | <u>Precipitation</u>               |
|----------------------------|-----------------------|------------------------------------|
| Northeast                  | Much above normal     | Below normal                       |
| Atlantic Seaboard          | Above normal          | Below normal                       |
| North Central              | Much above normal     | Below normal                       |
| Central                    | Above normal          | Below normal                       |
| Southeast                  | Near normal           | Variable                           |
| Southwest                  | Near normal           | Variable; mostly below normal      |
| Rockies                    | Slightly above normal | Variable                           |
| West and Pacific Northwest | Slightly below normal | Variable; mostly much above normal |

B. Summary of the Meteorological Conditions in  
Northwestern and West Central Colorado during  
May 1977

Grand Junction, Colorado, sixty miles to the south-southwest of the Tract C-b, received a total of 0.59 inch of precipitation during May, which is 0.04 inch below the monthly normal of 0.63 inch. Measurable precipitation occurred on the 10th, 13th, 14th, 15th, and the 26th. The region received 70 percent of the possible monthly sunshine. Sky cover by cloudiness averaged 5.2 out of a possible 10 during the daylight hours and 5.2 out of a possible 10 during the entire month. The region had eleven clear days, eleven partly cloudy days, and nine cloudy days during the month.

Air mass changes were frequent during May. Seven frontal passages occurred during the month. These frontal passages occurred regularly as an upper-level trough dominated the western United States throughout the month. Transport winds over the region as a whole were stronger in May than in April. Maritime polar cold frontal passages occurred on the 4th, 7th, 9th, 14th, 16th, 20th, and the 24th.

C. Summary of the Meteorological Conditions in the  
Oil Shale Tract C-b Region during May 1977

An upper-level trough which had a mean position over the western United States was responsible for the relatively frequent passage of cold fronts through the Tract C-b area during May. Precipitation occurred on the 13th, 14th, 15th, and 26th of May. Temperatures in the Tract C-b region were slightly above normal during May. Seven cold frontal passages occurred during May. Maritime polar cold frontal passages occurred on the 4th, 7th, 9th, 14th, 16th, 20th, and the 24th.

The monthly average temperatures recorded at the meteorological tower during May were 47.8°F at 8 feet; 49.4°F at 30 feet, 48.7°F at 100 feet, and 48.2°F at 200 feet. These averages are somewhat misleading since temperature data was obtained only during the first nineteen days of May. No temperature data was available for the last twelve days of the month. These averages are approximately 6°F higher than those recorded in April. The averages would have been higher had the last twelve days of May been included. The warmest days of the month were the 6th through the 9th and the 12th. The coolest days were the 14th and the 18th. The highest temperature recorded at the meteorological tower during May was 73°F at the 8- and 30-foot levels on the 9th. The coldest temperature recorded at the meteorological tower was 25°F at the 8-foot level on the morning of the 19th.

No relative humidity data was obtained during May since the sensors were removed in early May due to faulty data problems.

Wind speeds on the meteorological tower during May were much stronger on the average than the winds that prevailed during April. Resultant wind vectors at the meteorological tower during



May were as follows: 207.4 degrees at 5.2 miles per hour at 8 feet; 200.8 degrees at 6.9 miles per hour at 30 feet; 199.2 degrees at 7.9 miles per hour at 100 feet; and 208.5 degrees at 8.7 miles per hour at 200 feet.

The scalar average wind speeds associated with these resultant wind vectors were 7, 10, 12, and 13 miles per hour, respectively. The Ekman spiral and Ekman effect, i.e., a veering in direction and increase in speed as a function of increasing height above the surface, were in evidence during most of May. A reference to the May wind rose for the meteorological tower indicates that the winds at that location were primarily south-southwesterly with a high occurrence of southwesterly and southerly winds in addition.

The windiest days of the month at the meteorological tower were the 3rd, 5th, 6th, 16th, 23rd, and the 24th. The days having the lightest winds were the 13th, 19th, 20th, 21st, 27th, 30th, and 31st. The highest five-minute average wind speed recorded at the tower during May was 48 miles per hour at the 200-foot level on the 16th.

Precipitation totals in the Tract C-b Monitoring Network during May were generally slightly below normal. Precipitation occurrences were less numerous during May than during April.

Only 0.36 inch of precipitation was recorded at the meteorological tower during May. The largest daily precipitation total recorded in the network during May was 0.20 inch on May 15th. The greatest five-minute precipitation total recorded during the month was 0.04 inch (a precipitation rate of 0.48 inch/hour), recorded on the 13th and the 15th. Measurable precipitation ( $\geq .01$  inch) was recorded at the meteorological tower on the 13th, 14th, 15th, and the 26th. The precipitation on the morning of the 14th



was in the form of snow. All other precipitation occurrences were in the form of rainfall.

The monthly average station pressure during May was 786.1 millibars at the meteorological tower. This reading is 3.2 millibars lower than the April average station pressure of 789.3 millibars. The highest daily average station pressure occurred on the 2nd, 30th, and the 31st. The lowest daily average station pressures occurred on the 5th, 6th, and the 16th.

Cloudiness increased in the Tract C-b region during May, compared to the April cloud cover and insolation statistics. The region received an insolation total of 16,221.1 langleys, which is equivalent to a daily average insolation total of 523 langleys/day. This average is below the normal for May of 580 langleys/day in the Tract C-b region. On a diurnal basis, the greatest solar radiation rates occurred between 1100 and 1200 hours. The greatest daily radiation totals were received on the 18th, 29th, 30th, and the 31st. The lowest daily solar radiation totals were received on the 1st, 3rd, the 13th through the 15th, and the 26th through the 28th. The greatest five-minute radiation total received during May was 8.60 langleys (a rate of 1.72 langleys/minute), which occurred on the 21st. The largest hourly insolation total received during May was 88 langleys, which occurred on the 29th between 1200 and 1300 hours.

Because of the progressively increasing solar elevations and the increasingly longer periods of daylight that prevailed during May, the total possible solar radiation which could be received during a day increased monotonically throughout the month. Therefore, even though cloudiness increased during May compared to April, the actual amount of solar radiation received also increased.

The increase in cloudiness which affected the Tract C-b during May caused the "very unstable" stability classes to become much less common than they had been in April. Using the Pasquill method of stability determination, "D" stability (neutral stability) was the most common stability, occurring during 284 daytime hours, or 66.8 percent of the time. In decreasing order of frequency, "C" (slightly unstable) stability occurred during 98 hours, or 23.1 percent of the time, and "B" (very unstable) stability occurred during 43 hours, or 10.1 percent of the time. "A" (extremely unstable) stability did not occur during May.

Using the lapse rate method of stability determination ( $\frac{dT}{dz}$ ), the neutral ("D"), slightly stable ("E"), and very unstable ("B") stability classes were the most prevalent during May. In general, stable and/or neutral conditions prevailed during the nighttime hours and unstable and/or neutral conditions prevailed during the day. The following table is a diurnal breakdown of the various stability classes. As one proceeds from "A" to "F", the stability class ranges from extremely unstable to extremely stable. The column labeled "number of occurrences" indicates the number of times a particular stability class occurred during the month on an hourly basis. Level I presents the temperature change versus height values ( $\frac{dT}{dz}$ ) that were considered between 30 feet and 100 feet. Level II indicates the values that were considered between 30 feet and 200 feet.

Using the standard deviation of the horizontal wind ( $\sigma_\theta$ ) method of stability determination, "E" stability was the most common stability classification at the 30-, 100-, and 200-foot levels of the meteorological tower due to moderately strong winds at those levels. The "D" stability was the most common stability classification at the 8-foot level due to a higher degree of mechanical turbulence at that level.

LEVEL I ( $\frac{dT}{dz}$ ) 30 feet to 100 feet

| Stability/Class | Hour | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | No. of Occurrences |
|-----------------|------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------|
| A:              |      | 0 | 2 | 1 | 2 | 1 | 2 | 2 | 7 | 2  | 2  | 0  | 1  | 1  | 0  | 0  | 0  | 0  | 1  | 0  | 1  | 0  | 0  | 0  | 1  | 26                 |
| B:              |      | 2 | 2 | 0 | 0 | 3 | 1 | 4 | 6 | 4  | 2  | 3  | 3  | 2  | 2  | 2  | 2  | 0  | 8  | 3  | 3  | 2  | 3  | 1  | 60 |                    |
| C:              |      | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 3  | 4  | 2  | 2  | 2  | 0  | 3  | 0  | 0  | 3  | 6  | 3  | 1  | 1  | 0  | 0  | 33                 |
| D:              |      | 6 | 3 | 4 | 3 | 2 | 2 | 6 | 6 | 10 | 11 | 14 | 13 | 13 | 16 | 13 | 16 | 16 | 14 | 4  | 7  | 4  | 6  | 6  | 6  | 201                |
| E:              |      | 3 | 6 | 8 | 7 | 6 | 8 | 5 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 6  | 6  | 6  | 4  | 5  | 66                 |
| F:              |      | 7 | 6 | 4 | 7 | 7 | 6 | 2 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 4  | 3  | 5  | 5  | 5  | 58                 |

- A: extremely unstable  
 B: very unstable  
 C: slightly unstable  
 D: neutral  
 E: slightly stable  
 F: extremely stable

LEVEL II ( $\frac{dT}{dz}$ ) 30 feet to 200 feet

| Stability/Class | Hour | dZ |   |   |    |   |    |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | No. of Occurrences |
|-----------------|------|----|---|---|----|---|----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------|
|                 |      | 1  | 2 | 3 | 4  | 5 | 6  | 7 | 8 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |                    |
| A:              |      | 0  | 2 | 1 | 2  | 1 | 2  | 2 | 6 | 2  | 2  | 0  | 1  | 1  | 0  | 0  | 0  | 0  | 1  | 0  | 1  | 1  | 0  | 0  | 1  | 26                 |
| B:              |      | 3  | 2 | 2 | 0  | 3 | 1  | 4 | 5 | 4  | 2  | 3  | 3  | 2  | 2  | 2  | 2  | 2  | 0  | 7  | 3  | 3  | 1  | 2  | 1  | 59                 |
| C:              |      | 0  | 1 | 0 | 1  | 1 | 1  | 2 | 1 | 3  | 4  | 2  | 2  | 2  | 0  | 3  | 1  | 0  | 3  | 7  | 2  | 0  | 3  | 1  | 1  | 41                 |
| D:              |      | 7  | 2 | 6 | 3  | 2 | 1  | 4 | 7 | 10 | 11 | 14 | 13 | 13 | 16 | 13 | 15 | 16 | 14 | 4  | 9  | 5  | 7  | 7  | 8  | 207                |
| E:              |      | 4  | 7 | 8 | 10 | 8 | 13 | 5 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 3  | 7  | 6  | 5  | 3  | 79 |                    |
| F:              |      | 5  | 5 | 2 | 3  | 4 | 1  | 2 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 1  | 3  | 4  | 32 |                    |

The bivane at the 200-foot level of the meteorological tower indicated a pattern of upward vertical motion (negative vertical directions) during May. Upward vertical motion was more pronounced during the daytime hours at the 200-foot level. Upward vertical motions were less pronounced at the 200-foot level during the late night and early morning hours. The bivanes at the 30- and 100-foot levels were removed in late March due to instrumentation problems.

The  $\sigma_{\theta}$  value obtained at the 200-foot level using the bivane compared favorably with the  $\sigma_{\theta}$  value obtained at that level using the standard wind instrumentation.



VI. DATA PRESENTATION AND SUMMARY

This section includes summaries for various recorded data at the monitoring sites. The data presentations indicate the variability of pollutant concentrations and meteorological parameters with location and time. In addition, the presentations indicate the functional dependence of pollutant concentration with wind direction. All data except suspended particulates (24-hour samples) are sampled once each second, but recorded as five-minute arithmetic averages of the one-second samples. This averaging technique tends to smooth instantaneous maximum values, and is especially evident when comparing wind gusts to local weather bureau data.

Inherent to any data acquisition system is random noise both from the recording instruments and quantization in the analog-to-digital conversion. The lower threshold for all analytical instruments is twice the maximum noise level generated by the instruments. This lower threshold is 5 ppb for all instruments, except for the ozone analyzer, for which it is 0.5 ppb. Therefore, any values appearing in the data presentations that are less than 5 ppb indicate only a trace of pollutant in question and should not be construed to be absolute levels. In addition, the recorded quantity is simply random noise and averages tend toward zero. Thus, when concentrations are below the lower threshold of the analytical instruments they may appear as a zero entry in the data presentation which does not indicate absolute zero concentration.

All pollutant data (except for particulate data) is taken at the monitoring site in integer parts per billion (ppb) but is presented here in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )



assuming standard temperature and pressure of 25°C and 760 mmHg (1013.2 millibars), respectively. The scale factors required to convert  $\mu\text{g}/\text{m}^3$  at standard conditions back to ppb for the various pollutants are given in the following table.

| POLLUTANT            | TO CONVERT $\mu\text{g}/\text{m}^3$ AT 25°C<br>AND 760 mmHg TO ppb MULTIPLY BY |
|----------------------|--|
| $\text{NO}_x$        | .534   |
| NO                   | .534   |
| $\text{NO}_2$        | .534   |
| $\text{SO}_2$        | .384   |
| $\text{H}_2\text{S}$ | .723   |
| THC                  | 1.536  |
| $\text{CH}_4$        | 1.536  |
| CO                   | .877   |
| $\text{O}_3$         | .512   |

The units of the meteorological parameters are given in the table. It should be noted here that inside temperature is monitored and recorded as a functional part of the system but is not presented in this report.

Table III displays the monthly statistics for each monitoring station for the month. To insure statistical significance, and to reduce the possibility of introducing a bias in the presentation, averages are computed only when at least 50 percent of the samples are present, except for relative humidity and temperature, in which case 75 percent of the samples are required. If less than the required samples are present for a particular parameter, that entry will be blank. The number of

samples present for a particular channel is defined as the total possible number of five-minute samples for the averaging time less the computer downtime less the channel downtime less the channel calibration time. The averages in Table III are arithmetic averages with the following exceptions:

- Wind speed and wind direction are computed using a vector averaging technique where the wind speed is treated as the vector magnitude.
- Particulate averages are computed as the geometric mean.

Table IV displays the daily averages. Again, 50 percent of the five-minute samples are required in order to compute an average except for the cases of relative humidity and temperature which require 75 percent. A blank entry indicates an insufficient number of five-minute samples present for that day. Wind speed, wind direction, and particulate averages are computed the same way as described in Table III.

Table V presents the maximum daily five-minute average retained in the data base as well as the time of occurrence. A five-minute maximum average is printed if any samples are present for that day. Therefore, the maximum five-minute average for a channel which experienced considerable downtime or calibration time during the day in question may be misrepresentative of the maximum expected for that channel on that day.

Table VI indicates the five largest averages for various averaging times. The table shows the period of time covered by the average. Maxima are chosen so that time segments

are independent. The maximum averages reported are found using a 'sliding average' technique with the exception of the 24-hour particulate average, which is computed from midnight to midnight. For averaging times less than or equal to three hours, the sliding average is stepped one five-minute sample at a time. For longer averaging times the step size is twelve samples or one hour. For averaging times less than or equal to one hour 100 percent of the five-minute samples must be present to compute an average. Averaging times greater than one hour require 90 percent. Whether or not a sliding average is computed is solely determined by the number of samples present in that averaging time and is independent of daily and monthly averaging criteria.

To demonstrate the functional dependence of recorded parameters upon wind direction, Table VII shows pollutant concentration displayed in a bi-variate distribution with wind direction. The tables display the total number of five-minute samples occurring in each concentration and wind speed class. The mean concentration for all samples occurring in each wind class are also shown. This distribution demonstrates the dependence of high pollutant concentrations upon wind direction. Appendix A shows the stability wind rose diagrams.

The wind speed classifications used in Appendix A are based on the Beaufort wind scale classification system. This is a system of estimating and reporting wind speeds, invented in the early nineteenth century by Admiral Beaufort of the British Navy. It was originally based on the effects of various wind speeds on the amount of canvas that a full-rigged frigate of the period could carry, but has since been modified and modernized. In its present form for international meteorological use it equates: (a) Beaufort force (or Beaufort number); (b) wind speed;



(c) descriptive terms; and (d) visible effects upon land objects or the sea surface. One land adaptation is the NRM wind scale.

The six basic wind speed classifications used in the report are: 1-3 knots, 4-6 knots, 7-10 knots, 11-16 knots, 17-21 knots, and winds of greater than 21 knots. The following table is a complete description of the Beaufort Wind Scale, taken from Physical Climatology, by Helmut Landsberg, 1969.

BEAUFORT WIND SCALE FOR OBSERVATIONS AT LAND STATIONS

| Force | Explanatory Title | Specification for Use   | Corresponding Limits of Wind Speed at 10 meters ab.grd. |         |         |           |         |
|-------|-------------------|---|---|---------|---------|-----------|---------|
|       |                   |   | Mi/hr.  | Knots   | Km/hr.  | M/sec.    | Ft/sec. |
| 0     | Calm.....         | Smoke rises vertically.....   | <1  | <1      | <1      | 0.3       | 1       |
| 1     | Light air.....    | Direction of wind shown by smoke drift, but not by wind vanes.....                              | 1-3   | 1-3     | 1-5     | 0.3-1.5   | 1-5     |
| 2     | Light breeze..... | Wind felt on face:leaves rustle:ordinary vane moved by wind.....                                | 4-7   | 4-6     | 6-11    | 1.6-3.3   | 6-11    |
| 3     | Gentle breeze.... | Leaves and small twigs in constant motion;wind extends light flat.....                          | 8-12  | 7-10    | 12-19   | 3.4-5.4   | 12-18   |
| 4     | Moderate breeze.. | Raises dust and loose paper:small branches are moved.....                                       | 13-18   | 11-16   | 20-28   | 5.5-7.9   | 19-26   |
| 5     | Fresh breeze..... | Small trees in leaf begin to sway:wavelets formed on inland waters.....                         | 19-24   | 17-21   | 29-38   | 8.0-10.7  | 27-35   |
| 6     | Strong breeze.... | Large branches in motion:whistling heard in telegraph wires:umbrellas used with difficulty..... | 25-31   | 22-27   | 39-49   | 10.8-13.8 | 36-45   |
| 7     | High wind.....    | Whole trees in motion:inconvenience felt when walking against wind.....                         | 32-38   | 28-33   | 50-61   | 13.9-17.1 | 46-56   |
| 8     | Fresh gale.....   | Breaks twigs off trees:generally impedes progress.....  | 39-46   | 34-40   | 62-74   | 17.2-20.7 | 57-68   |
| 9     | Strong gale.....  | Slight structural damage occurs (chimney pots and slates removed).....                          | 47-54   | 41-47   | 75-88   | 20.8-24.4 | 69-80   |
| 10    | Whole gale.....   | Seldom experienced inland:trees uprooted:considerable structural damage occurs...               | 55-63   | 48-55   | 89-102  | 24.5-28.4 | 81-93   |
| 11    | Storm.....        | Very rarely experienced:accompanied by widespread damage.....                                   | 64-72   | 56-63   | 103-117 | 28.5-32.6 | 94-106  |
| 12    | Hurricane.....    | .....   | 73-82   | 64-71   | 118-133 | 32.7-36.9 | 107-121 |
| 13    | .....             | .....   | 83-92   | 72-80   | 134-149 | 37.0-41.4 | 122-136 |
| 14    | .....             | .....   | 93-102  | 81-89   | 150-166 | 41.5-46.1 | 137-151 |
| 15    | .....             | .....   | 104-114   | 90-99   | 167-183 | 46.2-50.9 | 152-166 |
| 16    | .....             | .....   | 115-125   | 100-108 | 184-201 | 51.0-56.0 | 167-183 |
| 17    | .....             | .....   | 126-136   | 109-118 | 202-220 | 56.1-61.2 | 184-201 |

Source: Table 36 (p.119) in R.J. List (1951):Smithsonian Meteorological Tables:Smithsonian Miscell.Coll.Vol. 114.

Table VIII demonstrates the diurnal variation of various recorded parameters. Hourly averages are determined by arithmetically averaging five-minute samples, except for wind direction averages which are computed vectorially assuming unit vector magnitudes. Totals in the diurnal wind direction tables are vector averages of the columns and rows. For all parameters, a blank entry in the diurnal variation table indicates that less than half (i.e., less than 6) of the five-minute samples for that hour are present.

All times given in the data presentation are Mountain Standard Time.

To facilitate comparison of recorded concentrations to ambient air quality standards, the following regulations are presented.



**TABLE II**  
**FEDERAL AND COLORADO STANDARDS**

|                         | <u>Primary</u>              | <u>Secondary</u>            | <u>Non-Designated<br/>Area</u> | <u>1973</u>                 | <u>Designated Area</u>      |                             |
|-------------------------|-----------------------------|-----------------------------|--------------------------------|-----------------------------|-----------------------------|-----------------------------|
|                         |                             |                             |                                |                             | <u>1976</u>                 | <u>1980</u>                 |
| <u>Particulate</u>      |                             |                             |                                |                             |                             |                             |
| Annual G. M.            | 75 $\mu\text{g}/\text{m}^3$ | 60 $\mu\text{g}/\text{m}^3$ | 45 $\mu\text{g}/\text{m}^3$    | 70 $\mu\text{g}/\text{m}^3$ | 55 $\mu\text{g}/\text{m}^3$ | 45 $\mu\text{g}/\text{m}^3$ |
| 24 Hr. Max.*            | 260                         | 150                         | 150                            | 200                         | 180                         | 150                         |
| <u>Sulfur Oxides</u>    |                             |                             |                                |                             |                             |                             |
| Annual                  | 80(.03ppm)                  |                             | --                             | 60(.02ppm)                  | 25(.009ppm)                 | 10(.004ppm)                 |
| 24 Hr. Max.*            | 365(.14ppm)                 |                             | 15(.005ppm)                    | 300(.1ppm)                  | 150(.05ppm)                 | 55(.02ppm)                  |
| 3 Hr. Max.*             | --                          | 1300(.5ppm)                 | --                             | --                          | --                          | --                          |
| 1 Hr. Max.**            | --                          | --                          | --                             | 800(.28ppm)                 | 300(.1ppm)                  | --                          |
| <u>Oxidant</u>          |                             |                             |                                |                             |                             |                             |
| 1 Hr. Max.*             | 160(.08ppm)                 | 160                         |                                |                             |                             |                             |
| 8 Hr. Max.*             | --                          | --                          |                                |                             |                             |                             |
| Annual                  | --                          | --                          |                                |                             |                             |                             |
| <u>Hydrocarbons</u>     |                             |                             |                                |                             |                             |                             |
| 3 Hr. Max.*             | 160(.24ppm)                 | 160                         |                                |                             |                             |                             |
| 6-9 a.m.                |                             |                             |                                |                             |                             |                             |
| <u>Carbon Monoxide</u>  |                             |                             |                                |                             |                             |                             |
| Max. 8 Hrs.*            | 10000(9ppm)                 | 10000                       |                                |                             |                             |                             |
| Max. 1 Hr.*             | 40000(35ppm)                | 40000                       |                                |                             |                             |                             |
| <u>Nitrogen Dioxide</u> |                             |                             |                                |                             |                             |                             |
| Annual                  | 100(.05ppm)                 | 100                         |                                |                             |                             |                             |

Units are micrograms per cubic meter and ppm in parenthesis.

\*Not to be exceeded more than once per year.

\*\*Not to be exceeded more than once per month.

TABLE III  
AVERAGES FOR MAY 1 THRU 31

TABLE III. AVERAGES FOR MAY 1 THRU 31

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

| NITROGEN OXIDES(NOX) |        | NITRIC OXIDE(NO) |     | NITROGEN DIOXIDE(NO2)    |     |
|----------------------|--------|------------------|-----|--------------------------|-----|
| SITE                 | 023    | 023              | 023 | 023                      | 023 |
|                      | .1     | .1               |     | .0                       |     |
| -----                |        |                  |     |                          |     |
| SULFUR DIOXIDE(SO2)  |        | PYRANOMETER      |     | SULFUR DIOXIDE(SO2)      |     |
| SITE                 | 023    | 023              | 023 | 023                      | 023 |
|                      | .1     | 16221.1          |     | .4                       |     |
| -----                |        |                  |     |                          |     |
| TOTAL HYDROCARBONS   |        | METHANE          |     | NON-METHANE HYDROCARBONS |     |
| SITE                 | 023    | 023              | 023 | 023                      | 023 |
|                      | 1105.8 | 921.3            |     | 184.1                    |     |
| -----                |        |                  |     |                          |     |
| CARBON MONOXIDE      |        | OZONE            |     | BAROMETRIC PRESSURE      |     |
| SITE                 | 023    | 023              | 023 | 023                      | 023 |
|                      | 437.8  | 95.3             |     | 786.1                    |     |
| -----                |        |                  |     |                          |     |
| TOTAL PRECIPITATION  |        | PARTICULATE      |     |                          |     |
| SITE                 | 023    | 023              | 023 | 023                      | 023 |
|                      | .36    | 18.2             |     |                          |     |
| -----                |        |                  |     |                          |     |

TABLE III. AVERAGES FOR MAY 1 THRU 31

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND SPEED

SITE 023 ( 8-FT) ( 30-FT) (100-FT) (200-FT)  
5.2 6.9 7.9 8.7

WIND DIRECTION

SITE 023 ( 8-FT) ( 30-FT) (100-FT) (200-FT)  
207.4 200.8 199.2 208.5

RELATIVE HUMIDITY

SITE 023 ( 8-FT) ( 30-FT) (100-FT) (200-FT)

TEMPERATURE

SITE 023 ( 8-FT) ( 30-FT) (100-FT) (200-FT)  
47.8 49.4 48.7 48.2

TABLE IV  
DAILY AVERAGES FOR MAY 1 THRU 31



TABLE IV. DAILY AVERAGES FOR MAY 1 THRU 31

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NITROGEN OXIDES(NOX) NITRIC OXIDE(NO) NITROGEN DIOXIDE(NO2)

| DATE | SITE | 023 | 023 | 023 |
|------|------|-----|-----|-----|
| 5/ 1 |      |     |     |     |
| 5/ 2 | 1    | .1  | .1  | .0  |
| 5/ 3 | .0   | .0  | .0  | .0  |
| 5/ 4 | .0   | .0  | .0  | .0  |
| 5/ 5 | .0   | .0  | .0  | .0  |
| 5/ 6 | .0   | .0  | .0  | .0  |
| 5/ 7 | .0   | .0  | .0  | .0  |
| 5/ 8 | .4   | .2  | .2  | .2  |
| 5/ 9 | .0   | .0  | .0  | .0  |
| 5/10 | .5   | .2  | .2  | .2  |
| 5/11 | .0   | .0  | .0  | .0  |
| 5/12 | .0   | .0  | .0  | .0  |
| 5/13 | .2   | .2  | .2  | .0  |
| 5/14 | .2   | .2  | .2  | .0  |
| 5/15 | .1   | .1  | .1  | .0  |
| 5/16 | .1   | .0  | .0  | .1  |
| 5/17 | .0   | .0  | .0  | .0  |
| 5/18 | .0   | .0  | .0  | .0  |
| 5/19 | 1.6  | 1.0 | .6  | .0  |
| 5/20 | .9   | .9  | .0  | .0  |
| 5/21 | .0   | .0  | .0  | .0  |
| 5/22 | .0   | .0  | .0  | .0  |
| 5/23 | .0   | .0  | .0  | .0  |
| 5/24 | .0   | .0  | .0  | .0  |
| 5/25 | .0   | .0  | .0  | .0  |
| 5/26 | .0   | .0  | .0  | .0  |
| 5/27 | .0   | .0  | .0  | .0  |
| 5/28 | .5   | .4  | .2  | .0  |
| 5/29 | .0   | .0  | .0  | .0  |
| 5/30 | .0   | .0  | .0  | .0  |
| 5/31 | .0   | .0  | .0  | .0  |

TABLE IV. DAILY AVERAGES FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

SULFUR DIOXIDE(SO2)

PYRANOMETER

023

023

023

DATE

|      |     |       |     |
|------|-----|-------|-----|
| 5/1  | .2  | 384.1 | .2  |
| 5/2  | .0  | 570.0 | .3  |
| 5/3  | .0  | 349.1 | .2  |
| 5/4  | .0  | 411.2 | 1.1 |
| 5/5  | .0  | 657.5 | 1.4 |
| 5/6  | .0  | 587.8 | .8  |
| 5/7  | .0  | 644.0 | .4  |
| 5/8  | .1  | 630.4 | .0  |
| 5/9  | .5  | 655.1 | .2  |
| 5/10 | .4  | 426.3 | .0  |
| 5/11 | .0  | 594.8 | .0  |
| 5/12 | .2  | 511.4 | .0  |
| 5/13 | .0  | 382.0 | .1  |
| 5/14 | .0  | 209.1 | .0  |
| 5/15 | .0  | 373.0 | .0  |
| 5/16 | 1.7 | 627.2 | 2.5 |
| 5/17 | .6  | 643.1 | .7  |
| 5/18 | .1  | 716.6 | .3  |
| 5/19 | .0  | 505.4 | .0  |
| 5/20 | .0  | 488.3 | .0  |
| 5/21 | .0  | 666.8 | .0  |
| 5/22 | .0  | 567.8 | .1  |
| 5/23 | .0  | 441.2 | 1.0 |
| 5/24 | .0  | 497.3 | 1.5 |
| 5/25 | .0  | 538.5 | .5  |
| 5/26 | .0  | 381.5 | .0  |
| 5/27 | .0  | 363.5 | .0  |
| 5/28 | .0  | 269.4 | .1  |
| 5/29 | .0  | 701.6 | .3  |
| 5/30 | .0  | 713.6 | .1  |
| 5/31 | .0  | 713.5 | .5  |

TABLE IV. DAILY AVERAGES FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

|      |        | TOTAL HYDROCARBONS |        | METHANE |     | NON-METHANE HYDROCARBONS |     |
|------|--------|--------------------|--------|---------|-----|--------------------------|-----|
| DATE | SITE   | 023                | 023    | 023     | 023 | 023                      | 023 |
| 5/ 1 | 1040.9 |                    | 872.0  |         |     | 168.9                    |     |
| 5/ 2 | 1236.7 |                    | 987.2  |         |     | 249.5                    |     |
| 5/ 3 | 1299.0 |                    | 1040.9 |         |     | 258.1                    |     |
| 5/ 4 | 1081.3 |                    | 910.3  |         |     | 171.1                    |     |
| 5/ 5 | 1068.3 |                    | 901.4  |         |     | 166.9                    |     |
| 5/ 6 | 1054.4 |                    | 893.1  |         |     | 161.3                    |     |
| 5/ 7 | 1072.5 |                    | 902.9  |         |     | 169.7                    |     |
| 5/ 8 | 1079.5 |                    | 905.8  |         |     | 173.6                    |     |
| 5/ 9 | 1072.7 |                    | 904.3  |         |     | 168.4                    |     |
| 5/10 | 1076.5 |                    | 921.7  |         |     | 154.8                    |     |
| 5/11 | 1095.8 |                    | 937.7  |         |     | 158.0                    |     |
| 5/12 | 1089.8 |                    | 928.8  |         |     | 161.1                    |     |
| 5/13 | 1081.5 |                    | 903.8  |         |     | 177.7                    |     |
| 5/14 | 1071.5 |                    | 903.2  |         |     | 168.3                    |     |
| 5/15 | 1091.0 |                    | 910.6  |         |     | 180.4                    |     |
| 5/16 | 1085.4 |                    | 916.2  |         |     | 169.2                    |     |
| 5/17 | 1065.3 |                    | 925.4  |         |     | 139.9                    |     |
| 5/18 | 1067.3 |                    | 918.1  |         |     | 149.2                    |     |
| 5/19 | 1096.9 |                    | 921.8  |         |     | 175.1                    |     |
| 5/20 | 1117.1 |                    | 930.1  |         |     | 187.0                    |     |
| 5/21 | 1118.5 |                    | 926.6  |         |     | 191.9                    |     |
| 5/22 | 1095.7 |                    | 915.0  |         |     | 180.7                    |     |
| 5/23 | 1267.8 |                    | 867.1  |         |     | 397.4                    |     |
| 5/24 |        |                    |        |         |     |                          |     |
| 5/25 |        |                    |        |         |     |                          |     |
| 5/26 |        |                    |        |         |     |                          |     |
| 5/27 |        |                    |        |         |     |                          |     |
| 5/28 |        |                    |        |         |     |                          |     |
| 5/29 |        |                    |        |         |     |                          |     |
| 5/30 |        |                    |        |         |     |                          |     |
| 5/31 |        |                    |        |         |     |                          |     |

TABLE IV. DAILY AVERAGES FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

| DATE | SITE | 023   | OZONE           |       | BAROMETRIC PRESSURE |       |
|------|------|-------|-----------------|-------|---------------------|-------|
|      |      |       | CARBON MONOXIDE | 023   |                     | 023   |
| 5/ 1 |      |       |                 | 83.9  |                     | 788.7 |
| 5/ 2 |      |       |                 | 85.9  |                     | 789.6 |
| 5/ 3 |      |       |                 | 88.6  |                     | 785.0 |
| 5/ 4 |      | 385.4 |                 | 95.2  |                     | 782.0 |
| 5/ 5 |      | 415.3 |                 | 87.0  |                     | 779.4 |
| 5/ 6 |      | 383.6 |                 | 85.0  |                     | 781.6 |
| 5/ 7 |      | 363.3 |                 | 89.9  |                     | 786.6 |
| 5/ 8 |      | 355.5 |                 | 86.7  |                     | 788.4 |
| 5/ 9 |      | 358.7 |                 | 80.1  |                     | 784.8 |
| 5/10 |      | 383.1 |                 | 104.8 |                     | 784.9 |
| 5/11 |      | 403.8 |                 | 108.4 |                     | 786.4 |
| 5/12 |      | 506.8 |                 | 108.1 |                     | 788.5 |
| 5/13 |      | 589.9 |                 | 89.7  |                     | 786.2 |
| 5/14 |      | 620.9 |                 | 91.9  |                     | 782.5 |
| 5/15 |      | 706.6 |                 | 91.4  |                     | 784.3 |
| 5/16 |      | 540.1 |                 | 107.2 |                     | 781.4 |
| 5/17 |      | 298.2 |                 | 112.4 |                     | 782.8 |
| 5/18 |      | 314.9 |                 | 103.4 |                     | 785.2 |
| 5/19 |      | 329.2 |                 | 84.4  |                     | 789.0 |
| 5/20 |      | 410.9 |                 | 83.7  |                     | 788.3 |
| 5/21 |      | 503.2 |                 | 93.5  |                     | 788.3 |
| 5/22 |      | 418.2 |                 | 97.7  |                     | 786.2 |
| 5/23 |      | 431.7 |                 | 109.5 |                     | 784.0 |
| 5/24 |      |       |                 | 101.0 |                     | 784.5 |
| 5/25 |      |       |                 | 91.2  |                     | 785.9 |
| 5/26 |      |       |                 | 99.4  |                     | 786.0 |
| 5/27 |      |       |                 | 105.7 |                     | 785.7 |
| 5/28 |      |       |                 | 99.4  |                     | 786.6 |
| 5/29 |      |       |                 | 98.5  |                     | 786.9 |
| 5/30 |      |       |                 | 100.6 |                     | 793.2 |
| 5/31 |      |       |                 | 88.5  |                     | 795.8 |



TABLE IV. DAILY AVERAGES FOR MAY 1 THRU 31

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TOTAL PRECIPITATION PARTICULATE

SITE 023 023

DATE

|      |      |
|------|------|
| 5/ 1 | 14.0 |
| 5/ 2 | 17.0 |
| 5/ 3 | 18.0 |
| 5/ 4 | 18.0 |
| 5/ 5 | 47.0 |
| 5/ 6 | 16.0 |
| 5/ 7 | 40.0 |
| 5/ 8 | 40.0 |
| 5/ 9 | 37.0 |
| 5/10 | 29.0 |
| 5/11 | 24.0 |
| 5/12 | 39.0 |
| 5/13 | .05  |
| 5/14 | .09  |
| 5/15 | .20  |
| 5/16 | 6.0  |
| 5/17 | 7.0  |
| 5/18 | 51.0 |
| 5/19 | 67.0 |
| 5/20 | 20.0 |
| 5/21 | 8.0  |
| 5/22 | 6.0  |
| 5/23 | 46.0 |
| 5/24 | 54.0 |
| 5/25 | 12.0 |
| 5/26 | 9.0  |
| 5/27 | .02  |
| 5/28 | 5.0  |
| 5/29 | 12.0 |
| 5/30 | 10.0 |
| 5/31 | 5.0  |



TABLE IV. DAILY AVERAGES FOR MAY 1 THRU 31  
 (UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

| DATE | WIND SPEED |          |          |          |
|------|------------|----------|----------|----------|
|      | ( 8-FT)    | ( 30-FT) | (100-FT) | (200-FT) |
| 5/ 1 | 6.9        | 9.1      | 11.0     | 12.2     |
| 5/ 2 | 5.7        | 7.6      | 9.0      | 9.7      |
| 5/ 3 | 9.7        | 13.2     | 16.1     | 17.3     |
| 5/ 4 | 5.0        | 7.1      | 8.2      | 9.5      |
| 5/ 5 | 10.4       | 13.5     | 15.2     | 16.3     |
| 5/ 6 | 12.3       | 16.2     | 19.0     | 20.8     |
| 5/ 7 | 8.4        | 11.4     | 13.0     | 13.9     |
| 5/ 8 | 6.8        | 9.3      | 11.3     | 12.4     |
| 5/ 9 | 7.9        | 11.1     | 13.6     | 14.9     |
| 5/10 | 8.1        | 10.8     | 13.0     | 14.1     |
| 5/11 | 5.8        | 7.8      | 9.3      | 10.4     |
| 5/12 | 6.8        | 9.2      | 11.2     | 12.9     |
| 5/13 | 1.4        | 2.2      | 3.0      | 3.9      |
| 5/14 | 6.4        | 8.6      | 10.5     | 11.9     |
| 5/15 | 5.2        | 7.1      | 8.7      | 10.0     |
| 5/16 | 12.1       | 15.4     | 17.8     | 19.6     |
| 5/17 | 7.0        | 8.8      | 9.8      | 10.6     |
| 5/18 | 6.6        | 8.4      | 9.1      | 9.7      |
| 5/19 | 1.3        | 1.7      | 1.6      | 2.1      |
| 5/20 | 3.0        | 4.2      | 5.1      | 5.9      |
| 5/21 | 2.5        | 3.3      | 4.1      | 4.7      |
| 5/22 | 4.0        | 5.7      | 7.1      | 7.9      |
| 5/23 | 9.2        | 11.9     | 13.8     | 15.4     |
| 5/24 | 12.4       | 16.1     | 18.5     | 19.9     |
| 5/25 | 6.8        | 9.0      | 9.9      | 10.4     |
| 5/26 | 3.7        | 5.2      | 5.9      | 6.3      |
| 5/27 | 1.8        | 2.6      | 2.9      | 3.3      |
| 5/28 | 1.9        | 3.1      | 3.7      | 3.9      |
| 5/29 | 4.0        | 5.0      | 5.4      | 5.7      |
| 5/30 | 2.7        | 3.7      | 4.4      | 4.7      |
| 5/31 | 2.0        | 2.8      | 3.6      | 3.8      |

TABLE IV. DAILY AVERAGES FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

WIND DIRECTION

| SITE 023 |         |          |          |          |  |
|----------|---------|----------|----------|----------|--|
| DATE     | ( 8-FT) | ( 30-FT) | (100-FT) | (200-FT) |  |
| 5/ 1     | 204.5   | 198.2    | 197.2    | 204.2    |  |
| 5/ 2     | 213.3   | 206.3    | 205.8    | 216.5    |  |
| 5/ 3     | 189.6   | 182.5    | 180.1    | 188.5    |  |
| 5/ 4     | 266.5   | 260.6    | 263.5    | 271.1    |  |
| 5/ 5     | 204.7   | 199.1    | 199.9    | 210.0    |  |
| 5/ 6     | 194.5   | 187.1    | 185.4    | 194.5    |  |
| 5/ 7     | 188.5   | 180.1    | 177.2    | 186.2    |  |
| 5/ 8     | 196.8   | 188.8    | 188.5    | 198.2    |  |
| 5/ 9     | 184.1   | 176.2    | 173.7    | 182.1    |  |
| 5/10     | 221.1   | 213.6    | 212.8    | 222.2    |  |
|          |         |          |          |          |  |
| 5/11     | 199.6   | 192.1    | 187.9    | 196.7    |  |
| 5/12     | 173.0   | 165.9    | 165.4    | 172.7    |  |
| 5/13     | 196.2   | 184.6    | 174.6    | 184.3    |  |
| 5/14     | 217.3   | 211.3    | 213.0    | 222.3    |  |
| 5/15     | 224.8   | 217.7    | 217.7    | 225.6    |  |
| 5/16     | 194.7   | 188.3    | 187.1    | 194.3    |  |
| 5/17     | 212.9   | 210.1    | 210.1    | 218.3    |  |
| 5/18     | 219.0   | 214.2    | 214.1    | 224.8    |  |
| 5/19     | 267.3   | 268.4    | 288.0    | 296.1    |  |
| 5/20     | 314.8   | 308.1    | 318.6    | 326.6    |  |
|          |         |          |          |          |  |
| 5/21     | 318.2   | 306.2    | 308.4    | 309.8    |  |
| 5/22     | 212.2   | 204.1    | 201.9    | 212.1    |  |
| 5/23     | 189.3   | 182.4    | 181.8    | 191.7    |  |
| 5/24     | 200.5   | 194.6    | 193.5    | 202.4    |  |
| 5/25     | 206.5   | 201.4    | 200.6    | 210.3    |  |
| 5/26     | 207.7   | 199.7    | 195.8    | 206.4    |  |
| 5/27     | 249.2   | 245.4    | 247.9    | 261.8    |  |
| 5/28     | 165.5   | 155.7    | 150.2    | 161.9    |  |
| 5/29     | 239.7   | 235.7    | 234.0    | 245.3    |  |
| 5/30     | 327.1   | 321.8    | 331.3    | 338.4    |  |
|          |         |          |          |          |  |
| 5/31     | 333.7   | 328.6    | 334.4    | 337.2    |  |

TABLE IV. DAILY AVERAGES FOR MAY 1 THRU 31

(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

## TEMPERATURE

| SITE 023 |      | ( 8-FT) | ( 30-FT) | (100-FT) | (200-FT) |
|----------|------|---------|----------|----------|----------|
| DATE     |      |         |          |          |          |
| 5/ 1     | 49.4 | 51.5    | 50.9     | 50.7     |          |
| 5/ 2     | 49.6 | 52.0    | 51.5     | 51.3     |          |
| 5/ 3     | 49.2 | 51.2    | 50.7     | 50.3     |          |
| 5/ 4     | 45.4 | 46.8    | 45.9     | 45.3     |          |
| 5/ 5     | 48.7 | 50.3    | 49.2     | 48.6     |          |
| 5/ 6     | 52.8 | 54.3    | 53.3     | 52.9     |          |
| 5/ 7     | 54.3 | 57.1    | 56.6     | 56.1     |          |
| 5/ 8     | 54.1 | 57.0    | 57.1     | 57.1     |          |
| 5/ 9     | 59.1 | 61.6    | 61.1     | 60.9     |          |
| 5/10     | 42.5 | 44.0    | 43.5     | 42.8     |          |
| 5/11     | 46.9 | 49.6    | 49.5     | 49.2     |          |
| 5/12     | 53.0 | 55.1    | 54.4     | 54.1     |          |
| 5/13     | 48.5 | 50.6    | 49.9     | 49.1     |          |
| 5/14     | 37.7 | 38.8    | 38.0     | 36.8     |          |
| 5/15     | 42.6 | 43.6    | 42.7     | 41.7     |          |
| 5/16     | 46.7 | 48.4    | 47.3     | 46.6     |          |
| 5/17     |      | 44.1    | 43.1     | 42.2     |          |
| 5/18     | 40.8 | 40.2    | 39.2     | 38.6     |          |
| 5/19     |      |         |          |          |          |
| 5/20     |      |         |          |          |          |
| 5/21     |      |         |          |          |          |
| 5/22     |      |         |          |          |          |
| 5/23     |      |         |          |          |          |
| 5/24     |      |         |          |          |          |
| 5/25     |      |         |          |          |          |
| 5/26     |      |         |          |          |          |
| 5/27     |      |         |          |          |          |
| 5/28     |      |         |          |          |          |
| 5/29     |      |         |          |          |          |
| 5/30     |      |         |          |          |          |
| 5/31     |      |         |          |          |          |

TABLE V  
MAXIMUM FIVE-MINUTE AVERAGES AND TIME OF  
OCCURRENCE FOR MAY 1 THRU 31

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NITROGEN OXIDES(NOX)

| DATE | SITE | 023         |
|------|------|-------------|
| 5/ 1 |      | 1.9( 1:35)  |
| 5/ 2 |      | 24.3( 3:00) |
| 5/ 3 |      | .0( 0:00)   |
| 5/ 4 |      | 1.9( 7:10)  |
| 5/ 5 |      | .0( 0:00)   |
| 5/ 6 |      | .0( 0:00)   |
| 5/ 7 |      | .0( 0:00)   |
| 5/ 8 |      | 1.9( 3:50)  |
| 5/ 9 |      | 1.9( 0:00)  |
| 5/10 |      | 1.9( 3:30)  |
| 5/11 |      | 1.9( 0:30)  |
| 5/12 |      | .0( 0:00)   |
| 5/13 |      | 59.9( 8:40) |
| 5/14 |      | 1.9( 3:30)  |
| 5/15 |      | 1.9( 0:10)  |
| 5/16 |      | 1.9( 2:25)  |
| 5/17 |      | 1.9(14:30)  |
| 5/18 |      | 1.9(19:40)  |
| 5/19 |      | 31.8(16:15) |
| 5/20 |      | 18.7( 7:55) |
| 5/21 |      | 1.9(12:30)  |
| 5/22 |      | .0( 0:00)   |
| 5/23 |      | .0( 0:00)   |
| 5/24 |      | 1.9( 9:50)  |
| 5/25 |      | .0( 0:00)   |
| 5/26 |      | .0( 0:00)   |
| 5/27 |      | .0( 0:00)   |
| 5/28 |      | 1.9( 3:30)  |
| 5/29 |      | .0( 0:00)   |
| 5/30 |      | .0( 0:00)   |
| 5/31 |      | .0( 0:00)   |



TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
 (UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
 PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

## NITRIC OXIDE(NO)

SITE 023

DATE

|      |             |
|------|-------------|
| 5/ 1 | .0( 0:00)   |
| 5/ 2 | 13.1( 3:00) |
| 5/ 3 | .0( 0:00)   |
| 5/ 4 | 1.9( 7:10)  |
| 5/ 5 | .0( 0:00)   |
| 5/ 6 | .0( 0:00)   |
| 5/ 7 | .0( 0:00)   |
| 5/ 8 | 1.9( 3:50)  |
| 5/ 9 | 1.9( 0:00)  |
| 5/10 | 1.9( 3:30)  |
| 5/11 | 1.9( 0:30)  |
| 5/12 | .0( 0:00)   |
| 5/13 | 52.4( 8:40) |
| 5/14 | 1.9( 3:30)  |
| 5/15 | 1.9( 0:10)  |
| 5/16 | .0( 0:00)   |
| 5/17 | 1.9(14:55)  |
| 5/18 | 1.9(19:40)  |
| 5/19 | 18.7(17:15) |
| 5/20 | 18.7( 7:55) |
| 5/21 | 1.9(12:30)  |
| 5/22 | .0( 0:00)   |
| 5/23 | .0( 0:00)   |
| 5/24 | 1.9( 9:50)  |
| 5/25 | .0( 0:00)   |
| 5/26 | .0( 0:00)   |
| 5/27 | .0( 0:00)   |
| 5/28 | 1.9( 4:05)  |
| 5/29 | .0( 0:00)   |
| 5/30 | .0( 0:00)   |
| 5/31 | .0( 0:00)   |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NITROGEN DIOXIDE(N02)

| DATE | SITE | 023         |
|------|------|-------------|
| 5/ 1 |      | 1.9( 1:35)  |
| 5/ 2 |      | 11.2( 3:00) |
| 5/ 3 |      | .0( 0:00)   |
| 5/ 4 |      | .0( 0:00)   |
| 5/ 5 |      | .0( 0:00)   |
| 5/ 6 |      | .0( 0:00)   |
| 5/ 7 |      | .0( 0:00)   |
| 5/ 8 |      | 1.9( 9:50)  |
| 5/ 9 |      | 1.9( 0:30)  |
| 5/10 |      | 1.9(11:15)  |
| 5/11 |      | .0( 0:00)   |
| 5/12 |      | .0( 0:00)   |
| 5/13 |      | 7.5( 8:40)  |
| 5/14 |      | .0( 0:00)   |
| 5/15 |      | 1.9(12:20)  |
| 5/16 |      | 1.9( 2:25)  |
| 5/17 |      | 1.9(14:30)  |
| 5/18 |      | .0( 0:00)   |
| 5/19 |      | 31.8(16:15) |
| 5/20 |      | .0( 0:15)   |
| 5/21 |      | .0( 0:00)   |
| 5/22 |      | .0( 0:00)   |
| 5/23 |      | .0( 0:00)   |
| 5/24 |      | .0( 0:00)   |
| 5/25 |      | .0( 0:00)   |
| 5/26 |      | .0( 0:00)   |
| 5/27 |      | .0( 0:00)   |
| 5/28 |      | 1.9( 3:30)  |
| 5/29 |      | .0( 0:00)   |
| 5/30 |      | .0( 0:00)   |
| 5/31 |      | .0( 0:00)   |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

SULFUR DIOXIDE (SO2)

| DATE | SITE | 023         |
|------|------|-------------|
| 5/ 1 |      | 2.6( 0:00)  |
| 5/ 2 |      | .0( 0:00)   |
| 5/ 3 |      | .0( 0:00)   |
| 5/ 4 |      | .0( 0:00)   |
| 5/ 5 |      | 2.6( 3:55)  |
| 5/ 6 |      | .0( 0:00)   |
| 5/ 7 |      | .0( 0:00)   |
| 5/ 8 |      | 5.2(12:50)  |
| 5/ 9 |      | 2.6( 4:05)  |
| 5/10 |      | 2.6( 0:35)  |
| 5/11 |      | .0( 0:00)   |
| 5/12 |      | 2.6( 3:55)  |
| 5/13 |      | 2.6( 3:25)  |
| 5/14 |      | .0( 0:00)   |
| 5/15 |      | 2.6( 0:40)  |
| 5/16 |      | 10.4(19:30) |
| 5/17 |      | 7.8(11:20)  |
| 5/18 |      | 2.6( 3:40)  |
| 5/19 |      | 2.6( 2:20)  |
| 5/20 |      | 2.6( 3:55)  |
| 5/21 |      | .0( 0:00)   |
| 5/22 |      | .0( 0:00)   |
| 5/23 |      | .0( 0:00)   |
| 5/24 |      | 2.6(13:35)  |
| 5/25 |      | 2.6( 9:55)  |
| 5/26 |      | 10.4(14:25) |
| 5/27 |      | .0( 0:00)   |
| 5/28 |      | 2.6(19:15)  |
| 5/29 |      | .0( 0:00)   |
| 5/30 |      | .0( 0:00)   |
| 5/31 |      | .0( 0:00)   |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

PYRANOMETER

| DATE | SITE | 023         |
|------|------|-------------|
| 5/ 1 |      | 6.35(14:25) |
| 5/ 2 |      | 6.85(11:55) |
| 5/ 3 |      | 7.25(14:05) |
| 5/ 4 |      | 7.85(12:45) |
| 5/ 5 |      | 7.10(11:40) |
| 5/ 6 |      | 7.25(12:50) |
| 5/ 7 |      | 6.75(11:30) |
| 5/ 8 |      | 6.75(11:20) |
| 5/ 9 |      | 7.00(11:50) |
| 5/10 |      | 8.45(13:00) |
| 5/11 |      | 6.90(11:30) |
| 5/12 |      | 7.25(13:45) |
| 5/13 |      | 7.20(10:40) |
| 5/14 |      | 5.20(13:15) |
| 5/15 |      | 7.90(13:45) |
| 5/16 |      | 6.95(11:45) |
| 5/17 |      | 7.05(12:00) |
| 5/18 |      | 7.25(11:35) |
| 5/19 |      | 8.05(12:30) |
| 5/20 |      | 7.85(10:45) |
| 5/21 |      | 8.60(11:25) |
| 5/22 |      | 8.00(12:50) |
| 5/23 |      | 7.80(12:15) |
| 5/24 |      | 7.40(11:20) |
| 5/25 |      | 7.65(11:10) |
| 5/26 |      | 8.15(13:30) |
| 5/27 |      | 8.05(11:55) |
| 5/28 |      | 7.55(12:15) |
| 5/29 |      | 8.05(12:00) |
| 5/30 |      | 7.00(11:50) |
| 5/31 |      | 6.95(11:45) |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

SULFUR DIOXIDE (SO2)

| DATE | SITE       | 023 |
|------|------------|-----|
| 5/1  | 1.4( 8:35) |     |
| 5/2  | 2.8(22:15) |     |
| 5/3  | 2.8( 0:00) |     |
| 5/4  | 4.2(12:45) |     |
| 5/5  | 5.5( 9:25) |     |
| 5/6  | 2.8( 1:50) |     |
| 5/7  | 2.8( 0:00) |     |
| 5/8  | 1.4( 1:30) |     |
| 5/9  | 1.4( 1:30) |     |
| 5/10 | 1.4( 0:50) |     |
| 5/11 | 1.4( 3:35) |     |
| 5/12 | 1.4( 3:30) |     |
| 5/13 | 1.4( 3:25) |     |
| 5/14 | 2.8( 3:25) |     |
| 5/15 | 2.8( 3:25) |     |
| 5/16 | 8.3(15:20) |     |
| 5/17 | 6.9( 0:10) |     |
| 5/18 | 2.8( 3:25) |     |
| 5/19 | 1.4( 3:25) |     |
| 5/20 | 1.4( 0:55) |     |
| 5/21 | 1.4( 0:50) |     |
| 5/22 | 2.8( 3:30) |     |
| 5/23 | 4.2(22:25) |     |
| 5/24 | 4.2( 0:25) |     |
| 5/25 | 4.2( 0:20) |     |
| 5/26 | 2.8(14:25) |     |
| 5/27 | 1.4( 3:25) |     |
| 5/28 | 1.4(20:50) |     |
| 5/29 | 2.8( 2:50) |     |
| 5/30 | 1.4( 3:25) |     |
| 5/31 | 2.8( 3:25) |     |



TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TOTAL HYDROCARBONS

| DATE | SITE          | 023 |
|------|---------------|-----|
| 5/ 1 | 1090.8(22:45) |     |
| 5/ 2 | 1566.2(23:20) |     |
| 5/ 3 | 1574.7( 0:40) |     |
| 5/ 4 | 1467.9(10:50) |     |
| 5/ 5 | 1152.7( 8:05) |     |
| 5/ 6 | 1094.1(18:20) |     |
| 5/ 7 | 1127.3( 7:35) |     |
| 5/ 8 | 1154.6(21:00) |     |
| 5/ 9 | 1119.5( 8:15) |     |
| 5/10 | 1137.0(14:40) |     |
| 5/11 | 1162.4( 9:20) |     |
| 5/12 | 1151.4( 8:20) |     |
| 5/13 | 2108.7(17:10) |     |
| 5/14 | 1124.0(13:05) |     |
| 5/15 | 1162.4(10:00) |     |
| 5/16 | 1512.2(14:40) |     |
| 5/17 | 1124.0(20:55) |     |
| 5/18 | 1152.7( 7:55) |     |
| 5/19 | 1197.6(22:00) |     |
| 5/20 | 1443.8( 3:55) |     |
| 5/21 | 1235.4( 4:55) |     |
| 5/22 | 1189.8( 8:40) |     |
| 5/23 | 3198.8( 6:30) |     |
| 5/24 |               |     |
| 5/25 |               |     |
| 5/26 |               |     |
| 5/27 |               |     |
| 5/28 |               |     |
| 5/29 |               |     |
| 5/30 |               |     |
| 5/31 | 1443.8(22:35) |     |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

METHANE

| DATE | SITE          | 023 |
|------|---------------|-----|
| 5/ 1 | 922.1(20:10)  |     |
| 5/ 2 | 1200.9(16:15) |     |
| 5/ 3 | 1192.4( 6:50) |     |
| 5/ 4 | 933.2(22:10)  |     |
| 5/ 5 | 947.5( 1:45)  |     |
| 5/ 6 | 909.8(11:45)  |     |
| 5/ 7 | 920.8(18:15)  |     |
| 5/ 8 | 928.7(18:45)  |     |
| 5/ 9 | 920.8( 1:45)  |     |
| 5/10 | 947.5(16:35)  |     |
| 5/11 | 954.1(17:55)  |     |
| 5/12 | 960.6( 5:40)  |     |
| 5/13 | 922.1( 1:20)  |     |
| 5/14 | 922.1(10:45)  |     |
| 5/15 | 928.7(10:50)  |     |
| 5/16 | 931.9( 8:45)  |     |
| 5/17 | 957.3( 2:00)  |     |
| 5/18 | 956.0( 6:00)  |     |
| 5/19 | 1012.7(22:05) |     |
| 5/20 | 1114.9( 7:35) |     |
| 5/21 | 956.0( 8:10)  |     |
| 5/22 | 933.2( 2:25)  |     |
| 5/23 | 1237.3(20:05) |     |
| 5/24 |               |     |
| 5/25 |               |     |
| 5/26 |               |     |
| 5/27 |               |     |
| 5/28 |               |     |
| 5/29 |               |     |
| 5/30 |               |     |
| 5/31 | 1216.5(18:20) |     |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

NON-METHANE HYDROCARBONS

| DATE | SITE          | 023 |
|------|---------------|-----|
| 5/1  | 224.0(22:45)  |     |
| 5/2  | 544.4(14:20)  |     |
| 5/3  | 393.3(14:30)  |     |
| 5/4  | 567.9(10:50)  |     |
| 5/5  | 246.2( 8:05)  |     |
| 5/6  | 203.8( 0:05)  |     |
| 5/7  | 224.0( 7:35)  |     |
| 5/8  | 246.8(21:00)  |     |
| 5/9  | 221.4( 9:00)  |     |
| 5/10 | 216.2(14:40)  |     |
| 5/11 | 233.8( 9:20)  |     |
| 5/12 | 227.9(16:45)  |     |
| 5/13 | 1202.2(17:10) |     |
| 5/14 | 227.9(13:40)  |     |
| 5/15 | 251.4(13:45)  |     |
| 5/16 | 605.6(14:40)  |     |
| 5/17 | 195.4(13:30)  |     |
| 5/18 | 238.4( 7:55)  |     |
| 5/19 | 250.7(12:45)  |     |
| 5/20 | 641.5(14:05)  |     |
| 5/21 | 310.0( 4:55)  |     |
| 5/22 | 274.2( 8:40)  |     |
| 5/23 | 2246.1(11:55) |     |
| 5/24 |               |     |
| 5/25 |               |     |
| 5/26 |               |     |
| 5/27 |               |     |
| 5/28 |               |     |
| 5/29 |               |     |
| 5/30 |               |     |
| 5/31 | 280.0(15:05)  |     |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

CARBON MONOXIDE

| DATE | SITE | 023           |
|------|------|---------------|
| 5/1  |      |               |
| 5/2  |      |               |
| 5/3  |      |               |
| 5/4  |      | 417.1(13:40)  |
| 5/5  |      | 4019.6( 9:25) |
| 5/6  |      | 422.8(15:25)  |
| 5/7  |      | 417.1( 0:40)  |
| 5/8  |      | 430.8(15:30)  |
| 5/9  |      | 400.0( 9:55)  |
| 5/10 |      | 419.4(11:30)  |
| 5/11 |      | 492.3(11:35)  |
| 5/12 |      | 3996.8( 9:00) |
| 5/13 |      | 1499.8(11:10) |
| 5/14 |      | 957.3(15:30)  |
| 5/15 |      | 1063.3(14:40) |
| 5/16 |      | 3070.2(11:00) |
| 5/17 |      | 363.5( 8:10)  |
| 5/18 |      | 4469.7(12:20) |
| 5/19 |      | 372.7( 8:15)  |
| 5/20 |      | 578.9(23:00)  |
| 5/21 |      | 592.6( 1:25)  |
| 5/22 |      | 484.4( 0:15)  |
| 5/23 |      | 909.4( 6:50)  |
| 5/24 |      |               |
| 5/25 |      |               |
| 5/26 |      |               |
| 5/27 |      |               |
| 5/28 |      |               |
| 5/29 |      |               |
| 5/30 |      |               |
| 5/31 |      |               |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

OZONE

| DATE | SITE         | 023 |
|------|--------------|-----|
| 5/1  | 97.7(16:20)  |     |
| 5/2  | 101.6(16:25) |     |
| 5/3  | 101.6(15:05) |     |
| 5/4  | 113.3(14:40) |     |
| 5/5  | 105.5( 8:50) |     |
| 5/6  | 95.7(13:25)  |     |
| 5/7  | 109.4(16:20) |     |
| 5/8  | 99.6(16:55)  |     |
| 5/9  | 87.9( 0:05)  |     |
| 5/10 | 125.0( 9:10) |     |
| 5/11 | 123.1(17:50) |     |
| 5/12 | 123.1(10:30) |     |
| 5/13 | 107.5( 9:05) |     |
| 5/14 | 119.2(11:55) |     |
| 5/15 | 107.5(10:40) |     |
| 5/16 | 127.0(14:45) |     |
| 5/17 | 128.9(14:40) |     |
| 5/18 | 123.1(11:45) |     |
| 5/19 | 95.7( 7:50)  |     |
| 5/20 | 105.5(16:35) |     |
| 5/21 | 111.4(14:10) |     |
| 5/22 | 109.4(13:25) |     |
| 5/23 | 128.9(17:25) |     |
| 5/24 | 113.3(13:45) |     |
| 5/25 | 119.2(14:30) |     |
| 5/26 | 125.0(15:35) |     |
| 5/27 | 130.9(12:15) |     |
| 5/28 | 121.1( 9:25) |     |
| 5/29 | 123.1(13:40) |     |
| 5/30 | 125.0(12:50) |     |
| 5/31 | 113.3( 9:15) |     |



TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

BAROMETRIC PRESSURE

| DATE | SITE | 023          |
|------|------|--------------|
| 5/ 1 |      | 790.0(11:10) |
| 5/ 2 |      | 791.0( 0:00) |
| 5/ 3 |      | 789.0( 0:00) |
| 5/ 4 |      | 784.0( 7:50) |
| 5/ 5 |      | 783.0( 0:00) |
| 5/ 6 |      | 785.0(22:35) |
| 5/ 7 |      | 788.0( 6:05) |
| 5/ 8 |      | 790.0( 6:25) |
| 5/ 9 |      | 789.0( 0:00) |
| 5/10 |      | 786.0( 8:50) |
| 5/11 |      | 787.0( 0:00) |
| 5/12 |      | 790.0( 7:15) |
| 5/13 |      | 789.0( 0:00) |
| 5/14 |      | 785.0( 0:00) |
| 5/15 |      | 785.0( 4:40) |
| 5/16 |      | 784.0( 0:00) |
| 5/17 |      | 784.0( 1:10) |
| 5/18 |      | 789.0(22:00) |
| 5/19 |      | 790.0( 5:45) |
| 5/20 |      | 790.0( 0:00) |
| 5/21 |      | 790.0( 6:25) |
| 5/22 |      | 787.0( 0:00) |
| 5/23 |      | 786.0( 9:10) |
| 5/24 |      | 786.0(19:35) |
| 5/25 |      | 787.0( 7:15) |
| 5/26 |      | 787.0( 0:00) |
| 5/27 |      | 788.0(23:05) |
| 5/28 |      | 788.0( 4:40) |
| 5/29 |      | 790.0(23:05) |
| 5/30 |      | 796.0(23:25) |
| 5/31 |      | 797.0( 5:45) |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TOTAL PRECIPITATION

| DATE | SITE | 023        |
|------|------|------------|
| 5/1  |      |            |
| 5/2  |      |            |
| 5/3  |      |            |
| 5/4  |      |            |
| 5/5  |      |            |
| 5/6  |      |            |
| 5/7  |      |            |
| 5/8  |      |            |
| 5/9  |      |            |
| 5/10 |      |            |
| 5/11 |      |            |
| 5/12 |      |            |
| 5/13 |      | .04(17:15) |
| 5/14 |      | .01( 3:40) |
| 5/15 |      | .04(15:25) |
| 5/16 |      |            |
| 5/17 |      |            |
| 5/18 |      |            |
| 5/19 |      |            |
| 5/20 |      |            |
| 5/21 |      |            |
| 5/22 |      |            |
| 5/23 |      |            |
| 5/24 |      |            |
| 5/25 |      |            |
| 5/26 |      | .01( 8:10) |
| 5/27 |      |            |
| 5/28 |      |            |
| 5/29 |      |            |
| 5/30 |      |            |
| 5/31 |      |            |

TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

| DATE | WIND SPEED |              |          | WIND DIRECTION |          |              |
|------|------------|--------------|----------|----------------|----------|--------------|
|      | ( 8-FT)    | ( 30-FT)     | (100-FT) | (100-FT)       | (200-FT) | (200-FT)     |
| 5/ 1 | 19.0       | 212.0(10:35) | 24.0     | 205.0( 7:20)   | 28.0     | 205.0( 7:25) |
| 5/ 2 | 17.0       | 209.0(13:40) | 21.0     | 201.0(13:40)   | 24.0     | 209.0(13:40) |
| 5/ 3 | 22.0       | 177.0(14:15) | 27.0     | 175.0(14:15)   | 33.0     | 164.0(16:55) |
| 5/ 4 | 18.0       | 220.0(15:50) | 23.0     | 213.0(15:45)   | 27.0     | 219.0(16:40) |
| 5/ 5 | 24.0       | 200.0(20:25) | 30.0     | 200.0(13:00)   | 35.0     | 214.0(13:10) |
| 5/ 6 | 23.0       | 222.0( 9:35) | 28.0     | 193.0( 8:40)   | 32.0     | 215.0( 9:35) |
| 5/ 7 | 22.0       | 185.0(14:05) | 29.0     | 182.0(14:05)   | 31.0     | 191.0(14:05) |
| 5/ 8 | 21.0       | 202.0(15:15) | 25.0     | 169.0(12:55)   | 28.0     | 199.0(15:15) |
| 5/ 9 | 19.0       | 188.0(12:40) | 23.0     | 177.0(12:40)   | 25.0     | 183.0(12:40) |
| 5/10 | 23.0       | 233.0(14:55) | 26.0     | 218.0(14:55)   | 31.0     | 224.0(14:55) |
| 5/11 | 18.0       | 193.0(11:25) | 23.0     | 197.0(15:20)   | 28.0     | 206.0(15:20) |
| 5/12 | 21.0       | 183.0(11:05) | 27.0     | 176.0(18:10)   | 30.0     | 188.0(18:15) |
| 5/13 | 24.0       | 199.0(17:00) | 30.0     | 190.0(17:00)   | 36.0     | 190.0(17:15) |
| 5/14 | 17.0       | 223.0(15:55) | 22.0     | 212.0(20:05)   | 28.0     | 222.0(20:05) |
| 5/15 | 21.0       | 264.0(15:20) | 26.0     | 252.0(15:20)   | 31.0     | 262.0(15:20) |
| 5/16 | 31.0       | 203.0(13:20) | 38.0     | 172.0(11:45)   | 43.0     | 196.0(13:25) |
| 5/17 | 24.0       | 214.0(11:35) | 30.0     | 199.0(11:10)   | 35.0     | 205.0(11:45) |
| 5/18 | 21.0       | 220.0(11:20) | 27.0     | 200.0(10:00)   | 31.0     | 209.0(10:00) |
| 5/19 | 12.0       | 347.0(21:15) | 16.0     | 340.0(20:55)   | 20.0     | 344.0(20:55) |
| 5/20 | 18.0       | 356.0(17:25) | 25.0     | 349.0(17:25)   | 28.0     | 354.0(17:25) |
| 5/21 | 13.0       | 334.0(12:25) | 15.0     | 304.0(14:20)   | 16.0     | 324.0(10:40) |
| 5/22 | 15.0       | 236.0(14:15) | 19.0     | 230.0(14:15)   | 22.0     | 182.0(23:45) |
| 5/23 | 24.0       | 197.0(12:00) | 29.0     | 189.0(12:00)   | 31.0     | 212.0(13:45) |
| 5/24 | 27.0       | 188.0(12:20) | 36.0     | 200.0(13:10)   | 42.0     | 206.0(13:10) |
| 5/25 | 18.0       | 217.0(11:40) | 23.0     | 215.0(13:20)   | 26.0     | 213.0(11:40) |
| 5/26 | 20.0       | 230.0( 9:45) | 27.0     | 224.0( 9:45)   | 32.0     | 230.0( 9:45) |
| 5/27 | 16.0       | 209.0( 7:05) | 22.0     | 204.0( 7:05)   | 27.0     | 217.0( 8:55) |
| 5/28 | 16.0       | 208.0( 9:50) | 19.0     | 197.0( 9:35)   | 21.0     | 206.0( 9:35) |
| 5/29 | 19.0       | 237.0(15:45) | 24.0     | 230.0(15:45)   | 28.0     | 214.0(16:00) |
| 5/30 | 14.0       | 307.0(13:25) | 18.0     | 296.0(13:25)   | 20.0     | 306.0(13:25) |
| 5/31 | 11.0       | 308.0(18:05) | 15.0     | 299.0(18:05)   | 17.0     | 312.0(18:05) |



TABLE V. MAXIMUM FIVE MINUTE AVERAGES AND TIME OF OCCURRENCE FOR MAY 1 THRU 31  
(UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
TEMPERATURE-DEGREES FAHRENHEIT; WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH;  
PYRANOMETER-TOTAL LANGLEYS; PRESSURE-MILLIBARS; PRECIPITATION-INCHES)

TEMPERATURE

| SITE 023 |  | ( 8-FT)     | ( 30-FT)    | (100-FT)    | (200-FT)    |
|----------|--|-------------|-------------|-------------|-------------|
| DATE     |  |             |             |             |             |
| 5/ 1     |  | 58.0( 8:45) | 58.0( 0:00) | 60.0( 0:00) | 60.0( 0:00) |
| 5/ 2     |  | 65.0(13:15) | 63.0(14:55) | 61.0(14:55) | 62.0(16:30) |
| 5/ 3     |  | 59.0(10:00) | 59.0(10:10) | 57.0(10:10) | 57.0(10:25) |
| 5/ 4     |  | 58.0(14:45) | 57.0(16:35) | 55.0(16:35) | 55.0(15:45) |
| 5/ 5     |  | 64.0(14:05) | 62.0(15:35) | 60.0(16:10) | 60.0(16:00) |
| 5/ 6     |  | 66.0(15:05) | 63.0(15:00) | 61.0(15:00) | 61.0(15:05) |
| 5/ 7     |  | 69.0(13:05) | 69.0(14:45) | 67.0(15:15) | 67.0(15:20) |
| 5/ 8     |  | 70.0(14:25) | 69.0(15:00) | 67.0(15:00) | 68.0(16:05) |
| 5/ 9     |  | 73.0(15:10) | 73.0(17:05) | 71.0(17:05) | 70.0(17:05) |
| 5/10     |  | 53.0( 0:00) | 56.0( 0:00) | 55.0( 0:00) | 54.0( 0:00) |
| 5/11     |  | 64.0(13:30) | 64.0(15:15) | 62.0(15:15) | 61.0(14:55) |
| 5/12     |  | 67.0(14:25) | 66.0(13:55) | 64.0(13:55) | 63.0(14:25) |
| 5/13     |  | 63.0(15:05) | 63.0(15:15) | 61.0(15:15) | 60.0(15:15) |
| 5/14     |  | 44.0(15:50) | 43.0(13:20) | 42.0(13:30) | 42.0(13:30) |
| 5/15     |  | 53.0(10:40) | 52.0(14:55) | 51.0(14:55) | 50.0(10:10) |
| 5/16     |  | 62.0(15:35) | 60.0(14:00) | 58.0(15:00) | 57.0(14:05) |
| 5/17     |  | 61.0(14:35) | 58.0(14:30) | 56.0(14:30) | 56.0(14:30) |
| 5/18     |  | 53.0(15:10) | 50.0(15:10) | 48.0(15:10) | 48.0(14:05) |
| 5/19     |  | 50.0(10:40) | 49.0(11:40) | 47.0(11:40) | 46.0(11:40) |
| 5/20     |  |             |             |             |             |
| 5/21     |  |             |             |             |             |
| 5/22     |  |             |             |             |             |
| 5/23     |  |             |             |             |             |
| 5/24     |  |             |             |             |             |
| 5/25     |  |             |             |             |             |
| 5/26     |  |             |             |             |             |
| 5/27     |  |             |             |             |             |
| 5/28     |  |             |             |             |             |
| 5/29     |  |             |             |             |             |
| 5/30     |  |             |             |             |             |
| 5/31     |  |             |             |             |             |

TABLE VI  
THE FIVE MAXIMUM INDEPENDENT SLIDING  
AVERAGES FOR MAY 1 THRU 31



TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAY 1-31  
(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

NITROGEN OXIDES (WS: WD)  
1-HOUR

| SITE | 023               |             |
|------|-------------------|-------------|
| 1.   | 5/19(17:45-18:45) | 9.4( 7:333) |
| 2.   | 5/20( 0:10- 1:10) | 5.6( 3:167) |
| 3.   | 5/19( 3:45- 4:45) | 3.3( 4:213) |
| 4.   | 5/28( 5:55- 6:55) | 1.7( 8:138) |
| 5.   | 5/28(10:30-11:30) | 1.6( 8:356) |

NITRIC OXIDE (WS: WD)  
1-HOUR

| SITE | 023               |             |
|------|-------------------|-------------|
| 1.   | 5/20( 0:10- 1:10) | 5.6( 3:167) |
| 2.   | 5/19( 3:45- 4:45) | 3.3( 4:213) |
| 3.   | 5/19(17:20-18:20) | 2.5( 9:334) |
| 4.   | 5/28(10:50-11:50) | 1.4( 7:357) |
| 5.   | 5/28( 4:15- 5:15) | 1.2( 5:138) |

NITROGEN DIOXIDE (WS: WD)  
1-HOUR

| SITE | 023               |             |
|------|-------------------|-------------|
| 1.   | 5/19(17:40-18:40) | 7.3( 8:332) |
| 2.   | 5/ 8(17:20-18:20) | 1.2(16:207) |
| 3.   | 5/10(18:45-19:45) | 1.2( 7:199) |
| 4.   | 5/ 8(14:35-15:35) | .8(18:200)  |
| 5.   | 5/ 8(18:25-19:25) | .8(10:204)  |

TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAY 1-31  
(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)  
UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

SULFUR DIOXIDE (WS: WD)  
1-HOUR

SITE 023

1. 5/16(18:40-19:40) 5.2(26:202)  
2. 5/16(16:10-17:10) 5.0(25:188)  
3. 5/16(14:45-15:45) 4.8(29:181)  
4. 5/16(19:55-20:55) 4.8(14:231)  
5. 5/16(21:10-22:10) 4.3(13:301)

SULFUR DIOXIDE (WS: WD)  
3-HOUR

SITE 023

1. 5/16(18:55-21:55) 4.7(17:236)  
2. 5/16(14:40-17:40) 4.4(27:187)  
3. 5/16(22:00- 1:00) 2.5( 6:323)  
4. 5/17( 8:50-11:50) 2.2(25:194)  
5. 5/10( 3:20- 6:20) 1.5( 6:220)

SULFUR DIOXIDE (WS: WD)  
24-HOUR

SITE 023

1. 5/16- 5/17(13:00) 2.3(16:220)  
2. 5/ 9- 5/10( 9:00) .8(11:195)  
3. 5/11- 5/12(12:00) .2( 9:193)  
4. 5/18- 5/19( 3:00) .1(11:209)  
5. 5/ 1- 5/ 2( 1:00) .1(10:190)

TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAY 1-31

(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS--MICROGRAMS PER CUBIC METER: WIND SPEED--MILES PER HOUR:  
WIND DIRECTION--DEGREES WITH RESPECT TO THE NORTH

SULFUR DIOXIDE (WS: WD)

1-HOUR

SITE 023

1. 5/16(15:35-16:35) 8.1(27:189)
2. 5/16(16:40-17:40) 6.1(26:191)
3. 5/17( 1:55- 2:55) 5.8( 3: 30)
4. 5/16(23:35- 0:35) 5.5( 5:353)
5. 5/16(20:15-21:15) 4.2(12:234)

TOTAL HYDROCARBONS (WS: WD)  
3-HOUR (6-9AM)

SITE 023

1. 5/23( 6:00- 9:00)1364.3(13:156)
2. 5/20( 6:00- 9:00)1229.3( 2:295)
3. 5/22( 6:00- 9:00)1131.0( 5: 11)
4. 5/21( 6:00- 9:00)1121.5( 4:349)
5. 5/11( 6:00- 9:00)1112.5( 7:116)

PRIMARY STANDARD EXCEEDED 19 TIMES AT SITE 023

SECONDARY STANDARD EXCEEDED 19 TIMES AT SITE 023

TABLE VI. THE FIVE MAXIMUM AVERAGES FOR MAY 1-31  
 (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)  
 UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:  
 WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

METHANE (WS: WD)  
 3-HOUR (6-9AM)

SITE 023

1. 5/20( 6:00- 9:00) 981.7( 2:295]
2. 5/11( 6:00- 9:00) 932.7( 7:116]
3. 5/21( 6:00- 9:00) 932.3( 4:349]
4. 5/17( 6:00- 9:00) 927.8(12:201]
5. 5/18( 6:00- 9:00) 925.3(14:177]

PRIMARY STANDARD EXCEEDED 19 TIMES AT SITE 023  
 SECONDARY STANDARD EXCEEDED 19 TIMES AT SITE 023

TABLE VI. THE FIVE MAXIMUM AVERAGES FOR MAY 1-31

(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

NON-METHANE HYDROCARBONS[WS: WD]  
3-HOUR(6-9AM)

SITE 023

1. 5/23( 6:00- 9:00) 475.6(13:156)
2. 5/20( 6:00- 9:00) 247.7( 2:295)
3. 5/ 2( 6:00- 9:00) 231.1( 5:166)
4. 5/22( 6:00- 9:00) 214.0( 5: 11)
5. 5/ 8( 6:00- 9:00) 197.2( 5: 94)

PRIMARY STANDARD EXCEEDED 19 TIMES AT SITE 023

SECONDARY STANDARD EXCEEDED 19 TIMES AT SITE 023



TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAY 1-31

(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER: WIND SPEED-MILES PER HOUR:  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

CARBON MONOXIDE (WS: WD)  
1-HOUR

023

SITE

1. 5/16(10:55-11:55) 1075.2(28:179)
2. 5/13(10:50-11:50) 1010.5( 3:348)
3. 5/16(12:05-13:05) 959.8(30:188)
4. 5/ 5( 9:20-10:20) 901.2(17:201)
5. 5/13(15:10-16:10) 875.3( 7:296)

TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAY 1-31  
 (WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)

UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
 WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

CARBON MONOXIDE[WS: WD]  
 8-HOUR

| SITE | 023                             |
|------|---------------------------------|
| 1.   | 5/13( 9:55-17:55) 793.5( 8:309) |
| 2.   | 5/15(10:55-18:55) 778.1( 9:211) |
| 3.   | 5/16( 5:55-13:55) 743.2(23:177) |
| 4.   | 5/14(14:55-22:55) 692.7(16:220) |
| 5.   | 5/15(19:55- 3:55) 656.2( 7:170) |

TABLE VI. THE FIVE MAXIMUM INDEPENDENT SLIDING AVERAGES FOR MAY 1-31  
(WITH ASSOCIATED WIND SPEED AND WIND DIRECTION)  
UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER; WIND SPEED-MILES PER HOUR;  
WIND DIRECTION-DEGREES WITH RESPECT TO THE NORTH

OZONE (WS: WD)  
1-HOUR

023

SITE

- 1. 5/17(14:45-15:45) 127.6(20:204)
- 2. 5/23(17:15-18:15) 127.3( : )
- 3. 5/16(14:35-15:35) 125.0(30:181)
- 4. 5/17(15:50-16:50) 124.9(16:201)
- 5. 5/23(15:05-16:05) 124.7(20:198)

TABLE VI. THE FIVE MAXIMUM AVERAGES FOR MAY 1-31  
 UNITS: CONCENTRATIONS-MICROGRAMS PER CUBIC METER

PARTICULATE  
 24-HOUR

023

SITE

|   |      |      |
|---|------|------|
| 1 | 5/17 | 67.0 |
| 2 | 5/24 | 54.0 |
| 3 | 5/16 | 51.0 |
| 4 | 5/ 5 | 47.0 |
| 5 | 5/23 | 46.0 |

TABLE VII  
FUNCTIONAL DEPENDENCE OF RECORDED  
PARAMETERS UPON WIND DIRECTION



NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITROGEN OXIDES(NOX)

TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77) C-B SHALE OIL PROJECT

WIND DIRECTION

| CONCENTRATION |       | N   | NNE | NE  | ENE | E   | ESE | SE  | SSE | S    | SSW  | SW   | WSW | W   | WNW | NW  | NNW | CALM | TOTAL |
|---------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|------|-------|
| UG/M**3       |       |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      |       |
| GT 160 :      |       |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 140 -         | 160 : |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 120 -         | 140 : |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 110 -         | 120 : |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 100 -         | 110 : |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 90 -          | 100 : |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 80 -          | 90 :  |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 70 -          | 80 :  |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 60 -          | 70 :  |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 50 -          | 60 :  |     |     |     |     |     |     |     |     |      |      |      |     |     |     | 1   |     |      | :     |
| 40 -          | 50 :  |     |     |     |     |     |     |     |     |      |      |      |     |     |     | 0   |     |      | :     |
| 30 -          | 40 :  |     |     |     |     |     |     |     |     |      |      |      |     |     |     | 0   |     |      | :     |
| 20 -          | 30 :  |     |     |     |     |     |     |     |     |      |      |      |     |     |     | 0   |     |      | :     |
| 10 -          | 20 :  |     |     |     |     |     |     |     |     |      |      |      |     |     |     | 0   |     |      | :     |
| LT            | 10 :  | 246 | 134 | 179 | 164 | 141 | 162 | 379 | 830 | 1397 | 1712 | 1262 | 319 | 248 | 322 | 376 | 271 | 4    | 25    |
| TOTAL         | :     | 247 | 136 | 179 | 165 | 141 | 166 | 379 | 835 | 1399 | 1714 | 1262 | 319 | 248 | 324 | 381 | 275 | 115  | 8085  |

NITRIC OXIDE(NO)  
 TRAILER NO. = 23 PERIOD( 5/ 1/77 TO 5/31/77) C-B SHALE OIL PROJECT

| CONCENTRATION |       | WIND DIRECTION |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | TOTAL  |
|---------------|-------|----------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|------|--------|
| UG/M**3       |       | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE | S    | SSW  | SW   | WSW | W   | WNW | NW  | NNW | CALM | TOTAL  |
| GT            | 160 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :      |
| 140 -         | 160 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :      |
| 120 -         | 140 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :      |
| 110 -         | 120 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :      |
| 100 -         | 110 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :      |
| 90 -          | 100 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :      |
| 80 -          | 90 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :      |
| 70 -          | 80 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :      |
| 60 -          | 70 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :      |
| 50 -          | 60 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     | 1   |     |      | :      |
| 40 -          | 50 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     | 0   |     |      | :      |
| 30 -          | 40 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     | 0   |     |      | :      |
| 20 -          | 30 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     | 0   |     |      | :      |
| 10 -          | 20 :  | 1              | 2   |     | 1   |     | 2   |     | 5   | 2    | 2    |      |     |     | 2   | 2   | 1   |      | :      |
| LT            | 10 :  | 246            | 134 | 179 | 164 | 141 | 164 | 379 | 830 | 1397 | 1714 | 1262 | 319 | 248 | 322 | 378 | 274 | 115  | : 8066 |
| TOTAL         | :     | 247            | 136 | 179 | 165 | 141 | 166 | 379 | 835 | 1399 | 1716 | 1262 | 319 | 248 | 324 | 381 | 275 | 115  | : 8087 |

TEAM

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITROGEN DIOXIDE(N02)

C-B SHALE OIL PROJECT

TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

WIND DIRECTION

N NNE NE ENE E ESE SE SSE S SSW SW W WNW NW NNW CALM TOTAL

CONCENTRATION

UG/M\*\*3

GT 160 :

140 - 160 :

120 - 140 :

110 - 120 :

100 - 110 :

90 - 100 :

80 - 90 :

70 - 80 :

60 - 70 :

50 - 60 :

40 - 50 :

30 - 40 :

20 - 30 :

10 - 20 :

LT 10 :

TOTAL :

MEAN

# NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

SULFUR DIOXIDE(SO2)

TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)
   
 C-B SHALE OIL PROJECT

## WIND DIRECTION

|               | N   | NNE | NE  | ENE | E   | ESE | SE  | SSE | S    | SSW  | SW   | WSW | W   | WNW | NW  | NNW | CALM | TOTAL |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|------|-------|
| CONCENTRATION |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      |       |
| UG/M**3       |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      |       |
| GT 140 :      |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 130 - 140 :   |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 120 - 130 :   |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 110 - 120 :   |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 100 - 110 :   |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 90 - 100 :    |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 80 - 90 :     |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 70 - 80 :     |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 60 - 70 :     |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 50 - 60 :     |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 40 - 50 :     |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 30 - 40 :     |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 20 - 30 :     |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| 10 - 20 :     |     |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |      | :     |
| LT 10 :       | 259 | 144 | 185 | 173 | 148 | 175 | 391 | 849 | 1431 | 1839 | 1115 | 334 | 256 | 334 | 402 | 295 | 121  | 8451  |
| TOTAL :       | 259 | 144 | 185 | 173 | 148 | 175 | 391 | 849 | 1431 | 1841 | 1115 | 334 | 256 | 334 | 402 | 295 | 121  | 8453  |
| MEAN          | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.    |

2

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

SULFUR DIOXIDE(SO2) TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77) C-B SHALE OIL PROJECT

| CONCENTRATION<br>UG/M**3<br>GT 140 : |       | WIND DIRECTION |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     | TOTAL |      |
|--------------------------------------|-------|----------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|-------|------|
|                                      |       | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE | S    | SSW  | SW   | WSW | W   | WNW | NW  | NNW |       | CALM |
| 130 -                                | 140 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 120 -                                | 130 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 110 -                                | 120 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 100 -                                | 110 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 90 -                                 | 100 : |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 80 -                                 | 90 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 70 -                                 | 80 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 60 -                                 | 70 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 50 -                                 | 60 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 40 -                                 | 50 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 30 -                                 | 40 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 20 -                                 | 30 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| 10 -                                 | 20 :  |                |     |     |     |     |     |     |     |      |      |      |     |     |     |     |     |       | :    |
| LT                                   | 10 :  | 259            | 144 | 185 | 172 | 148 | 174 | 391 | 848 | 1430 | 1840 | 1118 | 333 | 257 | 334 | 402 | 295 | 121   | 8451 |
| TOTAL                                | :     | 259            | 144 | 185 | 172 | 148 | 174 | 391 | 848 | 1430 | 1840 | 1118 | 333 | 257 | 334 | 402 | 295 | 121   | 8451 |
| MEAN                                 |       | 0.             | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.  | 0.   | 0.   | 0.   | 0.  | 0.  | 0.  | 0.  | 0.  | 0.    | 0.   |



# NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

TOTAL HYDROCARBONS

TRAILER NO. 23 PERIOD( 5/ 1/77 TO 5/31/77)
   
 C-8 SHALE OIL PROJECT

| CONCENTRATION<br>UG/M**3<br>GT 4000 : |     | WIND DIRECTION |     |     |     |     |     |     |      |      |     |     |     |     |     |     |      | TOTAL |
|---------------------------------------|-----|----------------|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|------|-------|
|                                       |     | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE  | S    | SSW | SW  | WSW | W   | WNW | NNW | CALM |       |
| 3600 - 4000 :                         |     |                |     |     |     |     |     |     | 3    | 1    |     |     |     |     |     |     |      | :     |
| 3400 - 3600 :                         |     |                |     |     |     |     |     |     | 0    | 0    |     |     |     |     |     |     |      | :     |
| 3200 - 3400 :                         |     |                |     |     |     |     |     |     | 0    | 2    | 0   |     |     |     |     |     |      | :     |
| 3000 - 3200 :                         |     |                |     |     |     |     |     |     | 1    | 2    | 3   |     |     | 1   |     |     |      | 4     |
| 2800 - 3000 :                         |     |                |     |     |     |     |     |     | 0    | 0    | 0   |     |     | 0   |     |     |      | 0     |
| 2600 - 2800 :                         |     |                |     |     |     |     |     |     | 0    | 0    | 0   |     |     | 0   |     |     |      | 2     |
| 2400 - 2600 :                         |     |                |     |     |     |     |     |     | 1    | 0    | 3   |     |     | 1   |     |     |      | 7     |
| 2200 - 2400 :                         |     |                |     |     |     |     |     |     | 0    | 0    | 0   |     |     | 0   |     |     |      | 0     |
| 2000 - 2200 :                         |     |                |     |     |     |     |     |     | 0    | 3    | 1   |     |     | 0   |     |     |      | 4     |
| 1800 - 2000 :                         |     |                |     |     |     |     |     |     | 1    | 0    | 0   |     |     | 0   |     |     |      | 2     |
| 1600 - 1800 :                         |     |                |     |     |     |     |     |     | 0    | 3    | 1   |     |     | 0   |     |     |      | 4     |
| LT 1600 :                             | 137 | 77             | 111 | 118 | 93  | 115 | 249 | 579 | 1093 | 1418 | 848 | 236 | 184 | 214 | 255 | 178 | 86   | 5991  |
| TOTAL :                               | 137 | 77             | 111 | 118 | 93  | 115 | 249 | 584 | 1103 | 1424 | 849 | 236 | 185 | 214 | 255 | 178 | 86   | 6014  |
| .....                                 |     |                |     |     |     |     |     |     |      |      |     |     |     |     |     |     |      |       |
| MEAS/100                              | 11. | 11.            | 11. | 11. | 11. | 11. | 11. | 11. | 11.  | 11.  | 11. | 11. | 11. | 11. | 11. | 11. | 11.  | 11.   |

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

METHANE(CH4) TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77) C-B SHALE OIL PROJECT

| CONCENTRATION<br>UG/M**3<br>GT 2400 : |  | WIND DIRECTION |     |    |     |   |     |    |     |   |     |    |     |   |     |    |     | TOTAL |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                                       |  | N              | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW |       | CALM |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2200 - 2400 :                         |  |                |     |    |     |   |     |    |     | 1 |     |    |     |   | 2   |    |     |       |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NON-METHANE HYDROCARBONS  
 TRAILER NO. 23 PERIOD( 5/ 1/77 TO 5/31/77)  
 C-B SHALE OIL PROJECT

| CONCENTRATION   |     |    |     |     |    |     |     |     |      |      |     |     |     |     |     |     |           |
|---|-----|----|-----|-----|----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----------|
| UG/M**3   |     |    |     |     |    |     |     |     |      |      |     |     |     |     |     |     |           |
| GT 3000 :   |     |    |     |     |    |     |     |     |      |      |     |     |     |     |     |     |           |
| 2800 - 3000 :   |     |    |     |     |    |     |     |     |      |      |     |     |     |     |     |     | :         |
| 2600 - 2800 :   |     |    |     |     |    |     |     |     |      |      |     |     |     |     |     |     | :         |
| 2400 - 2600 :   |     |    |     |     |    |     |     |     |      |      |     |     |     |     |     |     | :         |
| 2200 - 2400 :   |     |    |     |     |    |     |     | 1   |      | 1    |     |     |     |     |     |     | :         |
| 2000 - 2200 :   |     |    |     |     |    |     |     | 1   |      | 0    |     |     |     |     |     |     | :         |
| 1800 - 2000 :   |     |    |     |     |    |     |     | 1   | 1    | 0    |     |     |     |     |     |     | :         |
| 1600 - 1800 :   |     |    |     |     |    |     |     | 1   | 2    | 2    |     |     | 1   |     |     |     | :         |
| 1400 - 1600 :   |     |    |     |     |    |     |     | 0   | 1    | 1    |     |     | 0   |     |     |     | :         |
| 1200 - 1400 :   |     |    |     |     |    |     |     | 0   | 3    | 1    |     |     | 0   |     |     |     | :         |
| 1000 - 1200 :   |     |    |     |     |    |     |     | 0   | 0    | 0    |     |     | 0   |     |     |     | :         |
| 800 - 1000 :  |     |    |     |     |    |     |     | 1   | 2    | 1    | 1   |     | 0   |     |     |     | :         |
| 600 - 800 :   |     |    |     |     |    |     |     | 0   | 2    | 0    | 0   |     | 0   |     | 1   |     | :         |
| LT 600 :  | 137 | 77 | 111 | 118 | 93 | 115 | 249 | 579 | 1092 | 1418 | 948 | 236 | 184 | 214 | 255 | 177 | 86 : 5989 |
| TOTAL :   | 137 | 77 | 111 | 118 | 93 | 115 | 249 | 584 | 1103 | 1424 | 849 | 236 | 185 | 214 | 255 | 178 | 86 : 6014 |
| .....   |     |    |     |     |    |     |     |     |      |      |     |     |     |     |     |     |           |
| 188, 177, 168, 162, 158, 157, 162, 176, 202, 181, 173, 177, 181, 179, 182, 183, 153, 181. |     |    |     |     |    |     |     |     |      |      |     |     |     |     |     |     |           |

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

CARBON MONOXIDE(CO)

C-8 SHALE OIL PROJECT

TRAILER NO. 23 PERIOD( 5/ 1/77 TO 5/31/77)

WIND DIRECTION

| CONCENTRATION |  | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | CALM | TOTAL |
|---------------|--|---|-----|----|-----|---|-----|----|-----|---|-----|----|-----|---|-----|----|-----|------|-------|
| UG/M**3       |  |   |     |    |     |   |     |    |     |   |     |    |     |   |     |    |     |      |       |
| GT 4250 :     |  |   |     |    |     |   |     |    |     |   | 2   |    |     |   |     |    |     |      | 2     |
| 3750 - 4000 : |  |   |     |    |     |   |     |    |     |   | 0   | 1  |     |   |     |    |     |      | 1     |
| 3500 - 3750 : |  |   |     |    |     |   |     |    |     |   | 0   | 0  |     |   |     |    |     |      | 0     |
| 3250 - 3500 : |  |   |     |    |     |   |     |    |     |   | 0   | 0  |     |   |     |    |     |      | 0     |
| 3000 - 3250 : |  |   |     |    |     |   |     |    |     | 1 | 0   | 0  |     |   |     |    |     |      | 1     |
| 2750 - 3000 : |  |   |     |    |     |   |     |    |     | 0 | 0   | 0  |     |   |     |    |     |      | 0     |
| 2500 - 2750 : |  |   |     |    |     |   |     |    |     | 0 | 1   | 0  |     |   |     |    |     |      | 1     |
| 2250 - 2500 : |  |   |     |    |     |   |     |    |     | 0 | 0   | 0  |     |   |     |    |     |      | 0     |
| 2000 - 2250 : |  |   |     |    |     |   |     |    |     | 0 | 0   | 0  |     |   |     |    |     |      | 0     |
| 1750 - 2000 : |  |   |     |    |     |   |     |    |     | 0 | 0   | 0  |     |   |     |    |     |      | 0     |
| 1500 - 1750 : |  |   |     |    |     |   |     |    |     | 0 | 0   | 0  |     |   |     |    |     |      | 0     |
| 1250 - 1500 : |  |   |     |    |     |   |     |    |     | 2 | 2   | 0  |     |   |     |    |     |      | 6     |

LT 1250 : 122 67 93 107 85 107 238 565 943 1207 739 230 180 205 227 155 68 : 5338

TOTAL : 122 68 93 108 85 107 238 565 946 1212 740 230 180 205 227 155 68 : 5349

.....

MEAN :

425, 447, 429, 422, 434, 445, 459, 434, 441, 422, 473, 464, 458, 421, 400, 402, 415, 437,

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

OZONE(03)

TRAILER NO. • 23 PERIOD( 5/ 1/77 TO 5/31/77) C-B SHALE OIL PROJECT

WIND DIRECTION

| CONCENTRATION<br>UG/M**3<br>GT 240 : |       | WIND DIRECTION |     |     |     |     |     |     |     |      |      | NNW  | NW  | NNW  | CALM | TOTAL |
|--------------------------------------|-------|----------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|------|------|-------|
|                                      |       | N              | NNE | NE  | E   | ESE | SE  | SSE | S   | SSW  | SW   | WSW  | W   | WNW  | NNW  | TOTAL |
| 220 -                                | 240 : |                |     |     |     |     |     |     |     |      |      |      |     |      |      | :     |
| 200 -                                | 220 : |                |     |     |     |     |     |     |     |      |      |      |     |      |      | :     |
| 180 -                                | 200 : |                |     |     |     |     |     |     |     |      |      |      |     |      |      | :     |
| 160 -                                | 180 : |                |     |     |     |     |     |     |     |      |      |      |     |      |      | :     |
| 140 -                                | 160 : |                |     |     |     |     |     |     |     |      |      |      |     |      |      | :     |
| 120 -                                | 140 : | 5              | 3   | 9   |     | 1   | 1   | 10  | 121 | 169  | 62   | 8    | 7   | 11   | 10   | 4     |
| 100 -                                | 120 : | 114            | 45  | 34  | 27  | 23  | 30  | 89  | 148 | 657  | 384  | 118  | 129 | 166  | 197  | 131   |
| 80 -                                 | 100 : | 115            | 65  | 103 | 89  | 82  | 93  | 236 | 483 | 835  | 485  | 140  | 87  | 126  | 171  | 125   |
| 60 -                                 | 80 :  | 23             | 30  | 39  | 55  | 43  | 50  | 65  | 204 | 174  | 177  | 61   | 34  | 31   | 25   | 34    |
| 40 -                                 | 60 :  | 0              | 1   | 0   | 0   | 0   | 0   | 2   | 5   | 5    | 10   | 7    | 0   | 0    | 1    | 0     |
| 20 -                                 | 40 :  | 0              | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0    | 0   | 0    | 0    | 0     |
| LT                                   | 20 :  | 0              | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0    | 0   | 0    | 0    | 1     |
| TOTAL                                | :     | 257            | 144 | 185 | 171 | 148 | 174 | 391 | 847 | 1430 | 1840 | 1118 | 334 | 257  | 403  | 295   |
| MEAN                                 | :     | 98.            | 93. | 91. | 86. | 87. | 88. | 91. | 89. | 96.  | 96.  | 93.  | 97. | 100. | 99.  | 96.   |



TABLE VIII  
DIURNAL VARIATION OF VARIOUS RECORDED PARAMETERS

DIURNAL VARIATION OF NITROGEN OXIDES(UG/M\*\*3)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1    | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 2    | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 3    | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 4    | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 5    | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 6    | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 7    | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 8    | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 9    | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 10   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 11   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 12   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 13   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 14   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 15   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 16   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 17   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 18   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 19   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 20   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 21   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 22   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 23   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 24   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 25   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 26   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 27   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 28   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 29   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 30   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| 31   | *    | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  |
| MEAN | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

TOTAL NUMBER OF OBSERVATIONS = 8211. MEAN = 0.

\* DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITRIC OXIDE(UG/M\*\*3)  
 TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| HOUR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
| 1    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 2    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 3    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 4    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 5    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 6    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 7    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 8    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 9    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 10   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 11   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 12   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 13   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 14   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 15   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 16   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 17   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 18   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 19   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 20   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 21   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 22   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 23   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 24   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 25   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 26   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 27   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 28   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 29   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 30   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 31   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| MEAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 8211. MEAN = 0.

\* DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN DIOXIDE(UG/M\*\*3)  
 TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 2    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 3    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 4    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 5    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 6    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 7    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 8    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 9    | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 10   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 11   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 12   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 13   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 14   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 15   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 16   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 17   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 18   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 19   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 20   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 21   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 22   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 23   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 24   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 25   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 26   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 27   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 28   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 29   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 30   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| 31   | * | * | * | * | * | * | * | * | * | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | *  | 0    |
| MEAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 8211. MEAN = 0.

\* DENOTES A VALID SAMPLE BELOW THE MINIMUM DETECTABLE LIMIT OF THE INSTRUMENT

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF SULFUR DIOXIDE (UG/M\*\*3)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1 | 2 | 3 | 4  | 5 | 6 | 7 | 8 | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|----|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| HOUR | 0 | 1 | 2 | 0: | 0 | 0 | 0 | : | 0: | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 1    | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 2    | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 3    | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 4    | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 5    | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 6    | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 7    | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 8    | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 9    | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 10   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 11   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 12   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 13   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 14   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 15   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 16   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 17   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 18   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 19   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 20   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 21   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 22   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 23   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 24   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 25   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 26   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 27   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 28   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 29   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 30   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 31   | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| MEAN | 0 | 0 | 0 | 0  | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 8611. MEAN = 0.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF SULFUR DIOXIDE (UG/M\*\*3)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 2    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 3    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 4    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 5    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 6    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 7    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 8    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 9    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 10   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 11   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 12   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 13   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 14   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 15   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 16   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 17   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 18   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 19   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 20   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 21   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 22   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 23   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 24   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 25   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 26   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 27   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 28   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 29   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 30   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| 31   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |
| MEAN | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0    |

TOTAL NUMBER OF OBSERVATIONS = 8609. MEAN = 0.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TOTAL HYDROCARBONS(UG/M\*\*3 X 10\*\*-1)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |     |     |     |      |     |     |      |      |      |      |       |     |      |      |     |     |     |     |     |     |     |     |     |      |
|------|------|-----|-----|-----|------|-----|-----|------|------|------|------|-------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|      | 1    | 2   | 3   | 4   | 5    | 6   | 7   | 8    | 9    | 10   | 11   | 12    | 13  | 14   | 15   | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
| 1    |      |     |     |     |      |     |     |      | 104  | 105  | 106  | 105   | 105 | 104  | 103  | 104 | 104 | 104 | 102 | 102 | 104 | 102 | 103 | 102 | 104  |
| 2    | 102  | 101 | 101 |     | :104 | 104 | 106 | 108  | 113  | 113: |      | :109: | 108 | 109: |      |     | 144 | 149 | 145 | 148 | 151 | 149 | 153 | 155 | 104  |
| 3    | 155  | 152 | 150 |     | :154 | 153 | 148 | 140: | 100: | 101  | 102  | 105   | 108 | 109  | 110: |     |     |     |     |     |     |     |     |     | 124  |
| 4    |      |     |     | :   | :    |     |     | :    | :    | :    | :110 | 106   | 107 | 107  | 108  | 108 | 108 | 108 | 107 | 110 | 109 | 108 | 107 | 107 | 108  |
| 5    | 107  | 108 | 107 | 106 | 105  | 105 | 106 | 107  | 111  | 111: | 108  | 108   | 108 | 108  | 107  | 106 | 106 | 105 | 105 | 104 | 105 | 102 | 106 | 104 | 106  |
| 6    | 103  | 102 | 103 |     | :104 | 105 | 106 | 106  | 107  | 105  | 104  | 106   | 106 | 107  | 105  | 106 | 107 | 106 | 106 | 104 | 104 | 104 | 105 | 105 | 105  |
| 7    | 104  | 104 | 104 |     | :104 | 104 | 105 | 109  | 106  | 106  | 107  | 108   | 109 | 110  | 109  | 108 | 109 | 109 | 107 | 107 | 107 | 107 | 106 | 106 | 107  |
| 8    | 106  | 105 | 105 |     | :104 | 104 | 106 | 110  | 112  | 113  | 112  | 111   | 108 | 101  | 105  | 107 | 108 | 109 | 109 | 108 | 108 | 108 | 107 | 106 | 107  |
| 9    | 106  | 106 | 109 |     | :106 | 107 | 106 | 108  | 110  | 110  | 104  | 102   | 104 | 106  | 107  | 105 | 106 | 108 | 108 | 107 | 107 | 106 | 108 | 108 | 107  |
| 10   | 108  | 105 | 105 |     | :105 | 106 | 106 | 109  | 107  | 104  | 102  | 104   | 108 | 110  | 112  | 111 | 111 | 110 | 110 | 107 | 106 | 106 | 106 | 106 | 107  |
| 11   | 107  | 107 | 107 |     | :107 | 107 | 108 | 111  | 114  | 114  | 106  | 105   | 108 | 110  | 108  | 110 | 111 | 112 | 111 | 110 | 110 | 110 | 109 | 109 | 109  |
| 12   | 109  | 110 | 110 |     | :109 | 108 | 110 | 112  | 112: | 102  | 107  | 109   | 110 | 111  | 111  | 112 | 113 | 105 | 105 | 105 | 107 | 106 | 107 | 106 | 108  |
| 13   | 106  | 107 | 107 |     | :107 | 107 | 109 | 110  | 110  | 99   | 104  | 106   | 108 | 109  | 112  | 113 | 112 | 126 | 105 | 104 | 104 | 105 | 105 | 105 | 108  |
| 14   | 104  | 104 | 104 |     | :105 | 104 | 105 | 106  | 107  | 107  | 107  | 107   | 109 | 111  | 109  | 109 | 108 | 108 | 106 | 106 | 107 | 106 | 107 | 105 | 107  |
| 15   | 106  | 106 | 106 |     | :107 | 107 | 108 | 111  | 112  | 114  | 114  | 113   | 112 | 113  | 111  | 111 | 107 | 106 | 106 | 106 | 107 | 106 | 105 | 105 | 109  |
| 16   | 105  | 105 | 104 |     | :104 | 103 | 106 | 111  | 109  | 104  | 105: | 106   | 106 | 109  | 124  | 125 | 115 | 111 | 109 | 108 | 105 | 105 | 104 | 104 | 108  |
| 17   | 106  | 105 | 105 |     | :106 | 106 | 107 | 107  | 102  | 105  | 107  | 108   | 108 | 110  | 104  | 101 | 104 | 106 | 107 | 108 | 108 | 106 | 108 | 109 | 106  |
| 18   | 107  | 107 | 105 |     | :105 | 107 | 109 | 113  | 108: |      | :    | :110: | 99  | 102  | 105  | 107 | 107 | 109 | 109 | 108 | 105 | 105 | 103 | 102 | 106  |
| 19   | 104  | 104 | 103 |     | :105 | 105 | 107 | 110  | 114  | 115  | 115  | 114   | 113 | 115  | 112  | 107 | 109 | 109 | 110 | 109 | 107 | 109 | 111 | 105 | 109  |
| 20   | 107  | 105 | 107 |     | :111 | 110 | 113 | 129  | 126  | 121  | 121  | 119   |     | :105 | 102  | 105 | 107 | 110 | 109 | 109 | 107 | 107 | 108 | 107 | 111  |
| 21   | 107  | 107 | 106 |     | :108 | 107 | 108 | 112  | 115  | 115  | 116  | 116   | 115 | 116  | 115  | 116 | 115 | 114 | 113 | 111 | 110 | 109 | 108 | 108 | 112  |
| 22   | 108  | 108 | 107 |     | :107 | 107 | 110 | 112  | 116  | 115  | 115  | 114   | 114 | 114  | 113  | 113 | 112 | 110 | 99  | 100 | 102 | 104 | 105 | 107 | 109  |
| 23   | 108  | 108 | 108 |     | :109 | 108 | 180 | 112  | 119  | 180  | 112  | 154   | 124 | 110  | 197  | 116 | 102 | 147 | 175 | 106 | 162 | 109 | 101 | 142 | 127  |
| 24   |      |     |     | :   |      |     |     |      |      |      |      |       | :   |      |      |     |     |     |     |     |     |     |     |     |      |
| 25   |      |     |     | :   |      |     |     | :    |      |      |      |       | :   |      |      |     |     |     |     |     |     |     |     |     |      |
| 26   |      |     |     | :   |      |     |     | :    |      |      |      |       | :   |      |      |     |     |     |     |     |     |     |     |     |      |
| 27   |      |     |     | :   |      |     |     | :    |      |      |      |       | :   |      |      |     |     |     |     |     |     |     |     |     |      |
| 28   |      |     |     | :   |      |     |     | :    |      |      |      |       | :   |      |      |     |     |     |     |     |     |     |     |     |      |
| 29   |      |     |     | :   |      |     |     | :    |      |      |      |       | :   |      |      |     |     |     |     |     |     |     |     |     |      |
| 30   |      |     |     | :   |      |     |     | :    |      |      |      |       | :   |      |      |     |     |     |     |     |     |     |     |     |      |
| 31   |      |     |     | :   |      |     |     | :    |      |      |      |       | :   |      |      |     |     |     |     |     |     |     |     |     |      |
| MEAN | 108  | 108 | 108 | 106 | 108  | 108 | 113 | 111  | 111  | 111  | 109  | 111   | 109 | 109  | 111  | 110 | 111 | 114 | 112 | 110 | 111 | 109 | 109 | 110 | 136  |

TOTAL NUMBER OF OBSERVATIONS = 5980. MEAN = 111.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF METHANE(UG/M\*\*3 X 10\*\*-1)  
 TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

HOUR

| DAY  | 1   | 2   | 3   | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 87  | 86  | 86  |    |    |    |    |    | 87 | 87 | 87 | 87 | 87 | 86 | 86 | 86  | 86  | 86  | 86  | 87  | 88  | 87  | 87  | 87  | 87   |
| 2    | 117 | 117 | 118 |    |    |    |    |    | 86 | 87 | 87 | 86 | 86 | 83 | 76 | 118 | 118 | 118 | 118 | 118 | 117 | 118 | 118 | 118 | 87   |
| 3    |     |     |     |    |    |    |    |    | 88 | 89 | 89 | 86 | 89 | 89 | 86 |     |     |     |     |     |     |     |     |     | 103  |
| 4    |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     | 91   |
| 5    | 91  | 93  | 92  | 92 | 91 | 91 | 92 | 91 | 91 | 91 | 90 | 90 | 91 | 90 | 90 | 90  | 90  | 90  | 91  | 91  | 92  | 91  | 91  | 92  | 87   |
| 6    | 87  | 87  | 87  |    |    |    |    |    | 89 | 89 | 89 | 90 | 90 | 89 | 89 | 89  | 89  | 88  | 88  | 88  | 88  | 87  | 87  | 88  | 90   |
| 7    | 90  | 90  | 90  |    |    |    |    |    | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90  | 91  | 91  | 90  | 89  | 90  | 90  | 90  | 89  | 89   |
| 8    | 90  | 90  | 90  |    |    |    |    |    | 90 | 90 | 90 | 90 | 91 | 91 | 91 | 91  | 90  | 91  | 91  | 90  | 90  | 90  | 90  | 90  | 90   |
| 9    | 91  | 91  | 91  |    |    |    |    |    | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90  | 90  | 91  | 91  | 90  | 90  | 89  | 90  | 90  | 90   |
| 10   | 90  | 91  | 91  |    |    |    |    |    | 91 | 91 | 91 | 91 | 91 | 92 | 92 | 93  | 93  | 93  | 93  | 93  | 93  | 93  | 93  | 92  | 92   |
| 11   | 92  | 93  | 93  |    |    |    |    |    | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93  | 93  | 94  | 94  | 94  | 94  | 94  | 94  | 94  | 93   |
| 12   | 94  | 94  | 94  |    |    |    |    |    | 93 | 93 | 93 | 93 | 92 | 92 | 92 | 92  | 92  | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 92   |
| 13   | 91  | 91  | 91  |    |    |    |    |    | 90 | 90 | 90 | 91 | 91 | 90 | 90 | 90  | 90  | 90  | 89  | 89  | 89  | 89  | 89  | 89  | 90   |
| 14   | 89  | 89  | 89  |    |    |    |    |    | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90  | 90   |
| 15   | 90  | 91  | 91  |    |    |    |    |    | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91  | 91  | 91  | 90  | 90  | 91  | 90  | 91  | 90  | 91   |
| 16   | 90  | 90  | 91  |    |    |    |    |    | 92 | 91 | 91 | 91 | 92 | 92 | 91 | 92  | 92  | 91  | 91  | 91  | 91  | 91  | 92  | 92  | 91   |
| 17   | 93  | 92  | 93  |    |    |    |    |    | 93 | 92 | 91 | 91 | 91 | 92 | 93 | 92  | 92  | 92  | 92  | 92  | 92  | 92  | 92  | 92  | 92   |
| 18   | 92  | 91  | 91  |    |    |    |    |    | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91   |
| 19   | 91  | 91  | 90  |    |    |    |    |    | 91 | 91 | 92 | 91 | 91 | 91 | 91 | 92  | 92  | 92  | 92  | 93  | 92  | 93  | 96  | 92  | 92   |
| 20   | 92  | 91  | 92  |    |    |    |    |    | 98 | 94 | 94 | 92 | 92 | 91 | 84 | 92  | 92  | 92  | 92  | 92  | 92  | 91  | 92  | 92  | 92   |
| 21   | 92  | 92  | 92  |    |    |    |    |    | 94 | 92 | 92 | 92 | 93 | 93 | 93 | 92  | 92  | 92  | 92  | 92  | 92  | 92  | 92  | 92  | 92   |
| 22   | 92  | 92  | 92  |    |    |    |    |    | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91  | 91   |
| 23   | 90  | 91  | 90  |    |    |    |    |    | 88 | 86 | 88 | 86 | 84 | 86 | 84 | 83  | 85  | 87  | 81  | 85  | 86  | 79  | 83  | 81  | 86   |
| 24   |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |      |
| 25   |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |      |
| 26   |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |      |
| 27   |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |      |
| 28   |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |      |
| 29   |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |      |
| 30   |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |      |
| 31   |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |      |
| MEAN | 92  | 92  | 92  | 92 | 92 | 92 | 92 | 92 | 91 | 90 | 91 | 90 | 90 | 90 | 90 | 91  | 93  | 93  | 93  | 116 | 116 | 93  | 116 | 116 | 116  |

TOTAL NUMBER OF OBSERVATIONS = 6002. MEAN = 92.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF NON-METHANE HYDROCARBONS(UG/M\*\*3 X 10\*\*-1)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15  | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1    | 14   | 14 | 15 |    | 18 | 18 | 20 | 23 | 18 | 19 | 19 | 18 | 19 | 17 | 17  | 18 | 18 | 18 | 16 | 15 | 15 | 14 | 16 | 15 |
| 2    | 37   | 35 | 32 |    | 36 | 36 | 31 | 23 | 26 | 26 | 12 | 16 | 19 | 25 | 33  | 18 | 27 | 31 | 27 | 30 | 34 | 32 | 35 | 37 |
| 3    |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| 4    |      |    |    | 14 |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| 5    | 16   | 15 | 14 |    | 14 | 13 | 14 | 16 | 21 | 20 | 18 | 16 | 17 | 17 | 18  | 18 | 18 | 18 | 17 | 18 | 17 | 16 | 15 | 15 |
| 6    | 16   | 14 | 15 |    | 15 | 17 | 18 | 18 | 18 | 16 | 15 | 16 | 18 | 18 | 18  | 18 | 17 | 16 | 17 | 16 | 17 | 15 | 18 | 17 |
| 7    | 15   | 15 | 14 |    | 15 | 15 | 16 | 19 | 17 | 16 | 15 | 16 | 17 | 18 | 15  | 17 | 17 | 17 | 16 | 15 | 14 | 15 | 16 | 16 |
| 8    | 16   | 16 | 15 |    | 15 | 15 | 16 | 20 | 22 | 23 | 22 | 20 | 18 | 10 | 14  | 17 | 18 | 19 | 17 | 17 | 18 | 17 | 17 | 15 |
| 9    | 16   | 16 | 18 |    | 16 | 16 | 16 | 18 | 20 | 20 | 14 | 12 | 14 | 17 | 18  | 15 | 16 | 17 | 18 | 17 | 17 | 17 | 19 | 19 |
| 10   | 18   | 14 | 15 |    | 15 | 15 | 16 | 18 | 15 | 13 | 11 | 13 | 16 | 18 | 19  | 18 | 18 | 17 | 17 | 14 | 13 | 14 | 14 | 14 |
| 11   | 15   | 14 | 14 |    | 14 | 13 | 15 | 18 | 21 | 21 | 13 | 12 | 14 | 16 | 15  | 17 | 18 | 18 | 17 | 16 | 16 | 15 | 15 | 15 |
| 12   | 15   | 16 | 16 |    | 15 | 14 | 17 | 19 | 18 | 11 | 14 | 16 | 18 | 18 | 19  | 19 | 21 | 13 | 13 | 14 | 15 | 15 | 16 | 16 |
| 13   | 16   | 16 | 17 |    | 17 | 17 | 19 | 20 | 19 | 9  | 13 | 16 | 18 | 19 | 21  | 22 | 22 | 36 | 16 | 15 | 15 | 15 | 16 | 16 |
| 14   | 15   | 15 | 15 |    | 15 | 15 | 15 | 16 | 17 | 17 | 17 | 17 | 19 | 21 | 19  | 18 | 17 | 17 | 17 | 16 | 17 | 16 | 17 | 15 |
| 15   | 15   | 16 | 16 |    | 17 | 17 | 16 | 19 | 21 | 22 | 22 | 21 | 20 | 22 | 20  | 20 | 17 | 16 | 16 | 16 | 17 | 15 | 15 | 15 |
| 16   | 14   | 15 | 14 |    | 13 | 13 | 15 | 20 | 17 | 13 | 14 | 14 | 14 | 17 | 32  | 33 | 22 | 20 | 19 | 17 | 14 | 13 | 12 | 12 |
| 17   | 12   | 12 | 12 |    | 14 | 14 | 15 | 14 | 9  | 12 | 15 | 17 | 17 | 18 | 11  | 9  | 12 | 14 | 15 | 16 | 15 | 14 | 16 | 16 |
| 18   | 16   | 15 | 14 |    | 14 | 15 | 16 | 22 | 16 |    |    |    | 19 | 8  | 11  | 14 | 16 | 18 | 17 | 17 | 14 | 14 | 12 | 11 |
| 19   | 13   | 14 | 13 |    | 14 | 14 | 16 | 19 | 22 | 23 | 23 | 22 | 22 | 23 | 21  | 15 | 17 | 17 | 18 | 16 | 15 | 17 | 15 | 13 |
| 20   | 15   | 14 | 14 |    | 19 | 18 | 20 | 26 | 28 | 27 | 27 | 27 |    | 13 | 17  | 13 | 15 | 18 | 16 | 17 | 15 | 16 | 16 | 15 |
| 21   | 15   | 15 | 15 |    | 16 | 15 | 17 | 19 | 21 | 22 | 23 | 23 | 22 | 23 | 22  | 22 | 22 | 22 | 21 | 19 | 18 | 17 | 16 | 17 |
| 22   | 16   | 16 | 16 |    | 17 | 16 | 19 | 21 | 24 | 23 | 23 | 22 | 23 | 23 | 22  | 23 | 21 | 19 | 8  | 8  | 11 | 13 | 14 | 17 |
| 23   | 18   | 18 | 17 |    | 19 | 19 | 90 | 24 | 32 | 95 | 24 | 68 | 40 | 23 | 114 | 33 | 16 | 59 | 96 | 21 | 73 | 30 | 17 | 61 |
| 24   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| 25   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| 26   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| 27   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| 28   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| 29   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| 30   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| 31   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |
| MEAN | 16   | 16 | 16 | 14 | 17 | 17 | 20 | 20 | 20 | 21 | 18 | 20 | 19 | 18 | 22  | 19 | 18 | 21 | 19 | 23 | 23 | 23 | 23 | 15 |

TOTAL NUMBER OF OBSERVATIONS = 5978. MEAN = 19.

: INDICATES CALIBRATION DURING THE HOUR

LOGAN CORP  
 JOURNAL VARIATION OF CARBON MONOXIDE (UG/M<sup>3</sup> X 10<sup>4</sup> - 1)  
 TRAILER NO. " 23 PERIOD ( 5/ 1/77 TO 5/31/77)

HOUR

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 38 | 38 | 38 | 39 | 39 | 39 | 39 | 40 | 39 | 38 | 37 | 36 | 38 | 39 | 39 | 38 | 38 | 38 | 38 | 39 | 39 | 39 | 37 | 38 | 38   |
| 2    | 39 | 39 | 38 | 38 | 37 | 37 | 37 | 38 | 38 | 38 | 37 | 41 | 40 | 39 | 40 | 39 | 39 | 38 | 37 | 39 | 39 | 38 | 40 | 38 | 38   |
| 3    | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38   |
| 4    | 35 | 35 | 34 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35   |
| 5    | 34 | 34 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35   |
| 6    | 36 | 36 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37   |
| 7    | 38 | 37 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38   |
| 8    | 37 | 39 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38   |
| 9    | 37 | 39 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38   |
| 10   | 37 | 39 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38   |
| 11   | 37 | 39 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38   |
| 12   | 37 | 39 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38   |
| 13   | 42 | 43 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46 | 46   |
| 14   | 54 | 56 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58   |
| 15   | 62 | 65 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68   |
| 16   | 65 | 65 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61   |
| 17   | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31   |
| 18   | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24   |
| 19   | 32 | 31 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32   |
| 20   | 32 | 31 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32   |
| 21   | 56 | 56 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55   |
| 22   | 46 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43   |
| 23   | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38   |
| 24   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 25   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 26   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 27   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 28   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 29   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 30   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 31   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| MEAN | 41 | 41 | 41 | 41 | 39 | 40 | 40 | 42 | 40 | 41 | 48 | 45 | 50 | 46 | 44 | 46 | 45 | 45 | 44 | 42 | 42 | 42 | 41 | 41 | 41   |

TOTAL NUMBER OF OBSERVATIONS = 5351. MEAN = 44.

; INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF OZONE(UG/M\*\*3)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 83  | 86  | 86  | 78  | 78  | 80  | 81  | 81  | 88  | 89  | 92  | 93  | 90  | 90  | 86  | 88  | 94  | 93  | 87  | 81  | 70  | 71  | 66  | 69  | 83   |
| 2    | 72  | 72  | 72  | 74  | 73  | 74  | 70  | 73  | 87  | 89  | 91  | 94  |     | 94  | 96  | 97  | 100 | 100 | 96  | 89  | 84  | 90  | 88  | 92  | 85   |
| 3    | 91  | 85  | 89  | 81  | 82  | 81  | 77  | 81  | 80  | 81  | 85  | 87  | 86  | 90  | 96  | 98  | 97  | 97  | 97  | 94  | 87  | 89  | 85  | 91  | 88   |
| 4    | 91  | 85  | 86  | 83  | 83  | 81  | 87  | 82  | 94  | 99  | 100 | 101 | 101 | 103 | 108 | 110 | 108 | 107 | 105 | 104 | 101 | 98  | 87  | 85  | 95   |
| 5    | 78  | 75  | 75  | 78  | 77  | 78  | 79  | 83  | 99  | 103 | 102 | 102 | 100 | 98  | 95  | 93  | 86  | 84  | 86  | 86  | 84  | 78  | 81  | 81  | 87   |
| 6    | 79  | 71  | 70  | 82  | 83  | 85  | 84  | 85  | 86  | 86  | 86  | 89  | 93  | 93  | 92  | 92  | 91  | 91  | 90  | 86  | 81  | 80  | 82  | 80  | 85   |
| 7    | 79  | 78  | 77  | 74  | 74  | 76  | 81  | 88  | 88  | 92  | 92  | 96  | 98  | 101 | 102 | 104 | 106 | 108 | 102 | 97  | 90  | 84  | 81  | 78  | 89   |
| 8    | 83  | 80  | 79  | 79  | 75  | 73  | 66  | 72  | 91  | 96  | 93  | 88  | 90  | 92  | 93  | 94  | 96  | 99  | 99  | 92  | 84  | 87  | 86  | 85  | 86   |
| 9    | 84  | 81  | 77  | 70  | 69  | 70  | 71  | 76  | 79  | 80  | 79  | 81  | 84  | 85  | 86  | 86  | 87  | 86  | 87  | 84  | 76  | 76  | 74  | 78  | 80   |
| 10   | 78  | 79  | 82  | 90  | 93  | 93  | 94  | 106 | 107 | 122 | 118 | 115 | 119 | 116 | 117 | 116 | 117 | 118 | 116 | 110 | 103 | 97  | 99  | 101 | 104  |
| 11   | 101 | 100 | 102 | 103 | 103 | 102 | 89  | 95  | 110 | 112 | 111 | 115 | 116 | 116 | 116 | 117 | 117 | 118 | 121 | 111 | 102 | 105 | 102 | 105 | 108  |
| 12   | 108 | 106 | 103 | 104 | 102 | 102 | 91  | 101 | 117 | 118 | 120 | 121 | 121 | 119 | 116 | 116 | 115 | 107 | 104 | 103 | 104 | 101 | 98  | 90  | 108  |
| 13   | 84  | 83  | 82  | 83  | 88  | 90  | 88  | 93  | 99  | 104 | 104 | 105 | 104 | 104 | 105 | 104 | 103 | 90  | 85  | 77  | 67  | 70  | 63  | 66  | 89   |
| 14   | 69  | 70  | 65  | 81  | 87  | 76  | 79  | 82  | 104 | 106 | 107 | 108 | 111 | 101 | 99  | 101 | 101 | 101 | 97  | 95  | 93  | 88  | 85  | 85  | 91   |
| 15   | 84  | 84  | 79  | 75  | 72  | 72  | 73  | 85  | 89  | 100 | 104 | 100 | 97  | 99  | 102 | 103 | 95  | 86  | 95  | 89  | 104 | 99  | 99  | 93  | 91   |
| 16   | 80  | 78  | 80  | 78  | 82  | 82  | 92  | 119 | 123 | 113 | 112 | 114 | 114 | 120 | 123 | 124 | 123 | 118 | 113 | 111 | 110 | 107 | 116 | 112 | 107  |
| 17   | 108 | 107 | 108 | 106 | 103 | 96  | 103 | 107 | 117 | 117 | 120 | 121 | 121 | 121 | 126 | 127 | 124 | 118 | 111 | 105 | 105 | 105 | 102 | 104 | 112  |
| 18   | 105 | 106 | 94  | 90  | 96  | 87  | 91  | 113 | 115 | 117 | 116 | 119 | 118 | 115 | 114 | 110 | 106 | 108 | 105 | 99  | 93  | 88  | 79  | 80  | 103  |
| 19   | 82  | 82  | 81  | 86  | 78  | 80  | 75  | 81  | 95  | 93  | 92  | 91  | 91  | 92  | 90  | 91  | 90  | 88  | 82  | 75  | 72  | 81  | 80  | 72  | 84   |
| 20   | 70  | 68  | 64  | 71  | 69  | 66  | 68  | 75  | 79  | 83  | 87  | 89  |     | 95  | 96  | 98  | 103 | 97  | 93  | 94  | 93  | 89  | 83  | 83  | 83   |
| 21   | 84  | 82  | 81  | 75  | 74  | 76  | 67  | 85  | 93  | 97  | 97  | 98  | 105 | 106 | 107 | 106 | 106 | 108 | 106 | 100 | 90  | 94  | 94  | 94  | 93   |
| 22   | 97  | 92  | 98  | 93  | 89  | 90  | 80  | 86  | 101 | 105 | 104 | 106 | 106 | 105 | 106 | 103 | 105 | 104 | 103 | 95  | 85  | 91  | 94  | 94  | 97   |
| 23   | 92  | 88  | 88  | 95  | 98  | 95  | 96  | 100 | 117 | 122 | 121 | 119 | 115 | 120 | 123 | 124 | 122 | 126 | 123 | 114 | 106 | 104 | 101 | 104 | 109  |
| 24   | 102 | 101 | 103 | 99  | 100 | 101 | 103 | 103 | 103 | 104 | 106 | 107 | 107 | 110 | 109 | 107 | 104 | 103 | 97  | 94  | 89  | 89  | 87  | 89  | 101  |
| 25   | 91  | 91  | 88  | 80  | 78  | 70  | 75  | 87  | 89  | 93  | 99  | 104 | 107 | 112 | 115 | 106 | 104 | 103 | 101 | 94  | 78  | 73  | 64  | 69  | 91   |
| 26   | 66  | 65  | 80  | 86  | 92  | 91  | 93  | 100 | 105 | 104 | 117 | 117 | 119 | 117 | 121 | 121 | 115 | 115 | 106 | 104 | 99  | 94  | 85  | 73  | 99   |
| 27   | 74  | 76  | 83  | 88  | 82  | 74  | 90  | 118 | 120 | 122 | 123 | 118 | 124 | 119 | 121 | 119 | 119 | 119 | 115 | 112 | 109 | 94  | 95  | 101 | 105  |
| 28   | 94  | 99  | 107 | 105 | 97  | 95  | 102 | 107 | 112 | 119 | 110 | 102 | 92  |     |     |     |     | 109 | 100 | 94  | 92  | 85  | 87  | 74  | 99   |
| 29   | 63  | 59  | 64  | 72  | 72  | 73  | 73  | 92  | 106 | 114 | 114 | 113 | 117 | 120 | 119 | 118 | 118 | 114 | 111 | 109 | 102 | 98  | 100 | 100 | 98   |
| 30   | 97  | 90  | 81  | 72  | 78  | 73  | 86  | 84  | 102 | 107 | 111 | 110 | 118 | 119 | 116 | 117 | 116 | 116 | 114 | 107 | 96  | 93  | 95  | 93  | 100  |
| 31   | 97  | 95  | 97  | 94  | 90  | 94  | 75  | 83  | 101 | 106 | 93  | 96  | 90  | 91  | 92  | 92  | 91  | 84  | 83  | 81  | 71  | 71  | 74  | 78  | 88   |
| MEAN | 86  | 84  | 84  | 84  | 85  | 84  | 83  | 82  | 92  | 100 | 103 | 104 | 104 | 105 | 106 | 106 | 105 | 104 | 101 | 96  | 91  | 89  | 87  | 87  | 87   |

TOTAL NUMBER OF OBSERVATIONS = 8607, MEAN = 95.

: INDICATES CALIBRATION DURING THE HOUR

WILLIAMS CORPORATION

HOURLY TOTAL PRECIPITATION (HUNDRETHS OF INCHES)  
TRAILER NO. # 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY   | HOUR |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 24 TOTAL |
|-------|------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------|
|       | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |          |
| 1     | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 2     | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 3     | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 4     | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 5     | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 6     | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 7     | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 8     | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 9     | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 10    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 11    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 12    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 13    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 14    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 15    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 16    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 17    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 18    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 19    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 20    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 21    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 22    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 23    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 24    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 25    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 26    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 27    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 28    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 29    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 30    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| 31    | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |
| TOTAL | 0    | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0        |

TOTAL NUMBER OF OBSERVATIONS = 8848. TOTAL = 36.

1 INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND SPEED AT 8 FEET(MPH)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1  | 2 | 3  | 4 | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|---|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 3  | 2 | 5  | 1 | 4  | 1  | 4  | 14 | 12 | 15 | 14 | 14 | 14 | 12 | 12 | 14 | 12 | 9  | 5  | 1  | 1  | 1  | 1  | 2  | 7    |
| 2    | 0  | 0 | 2  | 1 | 1  | 1  | 0  | 2  | 9  | 12 | 10 | 10 | 14 | 13 | 11 | 12 | 11 | 10 | 6  | 2  | 3  | 3  | 5  | 8  | 6    |
| 3    | 8  | 4 | 7  | 6 | 6  | 2  | 4  | 7  | 10 | 14 | 15 | 15 | 14 | 15 | 17 | 12 | 17 | 11 | 9  | 4  | 5  | 11 | 11 | 11 | 10   |
| 4    | 12 | 7 | 6  | 4 | 2  | 2  | 4  | 8  | 9  | 11 | 10 | 9  | 8  | 9  | 17 | 13 | 14 | 14 | 15 | 9  | 4  | 2  | 1  | 0  | 7    |
| 5    | 2  | 1 | 10 | 2 | 2  | 1  | 0  | 3  | 13 | 14 | 17 | 20 | 18 | 18 | 17 | 18 | 17 | 15 | 15 | 13 | 15 | 7  | 11 | 11 | 12   |
| 6    | 7  | 6 | 6  | 5 | 9  | 14 | 14 | 18 | 19 | 18 | 18 | 16 | 16 | 16 | 15 | 16 | 15 | 12 | 10 | 5  | 5  | 6  | 7  | 2  | 9    |
| 7    | 6  | 6 | 5  | 6 | 6  | 5  | 6  | 11 | 12 | 12 | 11 | 13 | 13 | 16 | 18 | 17 | 15 | 13 | 5  | 2  | 3  | 3  | 3  | 2  | 7    |
| 8    | 1  | 2 | 3  | 1 | 1  | 1  | 1  | 2  | 8  | 12 | 16 | 16 | 16 | 14 | 15 | 14 | 14 | 13 | 10 | 5  | 5  | 5  | 4  | 1  | 7    |
| 9    | 1  | 3 | 8  | 6 | 4  | 6  | 5  | 6  | 11 | 11 | 10 | 11 | 13 | 11 | 11 | 12 | 13 | 11 | 8  | 2  | 3  | 4  | 9  | 11 | 8    |
| 10   | 10 | 4 | 3  | 1 | 3  | 4  | 7  | 11 | 8  | 9  | 9  | 10 | 10 | 14 | 17 | 16 | 15 | 10 | 9  | 4  | 3  | 4  | 3  | 2  | 6    |
| 11   | 1  | 1 | 1  | 2 | 0  | 2  | 0  | 4  | 11 | 12 | 12 | 15 | 14 | 12 | 11 | 12 | 11 | 8  | 6  | 3  | 3  | 4  | 3  | 1  | 4    |
| 12   | 1  | 3 | 5  | 3 | 1  | 2  | 2  | 2  | 6  | 9  | 14 | 17 | 12 | 11 | 9  | 6  | 10 | 16 | 17 | 11 | 11 | 7  | 7  | 4  | 8    |
| 13   | 1  | 5 | 1  | 3 | 2  | 2  | 2  | 2  | 2  | 3  | 3  | 2  | 6  | 7  | 6  | 6  | 5  | 18 | 6  | 3  | 3  | 1  | 3  | 5  | 6    |
| 14   | 3  | 3 | 2  | 3 | 3  | 4  | 4  | 7  | 9  | 10 | 7  | 7  | 6  | 12 | 7  | 11 | 13 | 11 | 10 | 12 | 15 | 13 | 12 | 10 | 7    |
| 15   | 2  | 7 | 2  | 2 | 2  | 3  | 5  | 16 | 17 | 17 | 23 | 25 | 26 | 20 | 24 | 24 | 21 | 20 | 19 | 5  | 6  | 7  | 8  | 4  | 6    |
| 16   | 3  | 1 | 1  | 1 | 1  | 1  | 1  | 6  | 17 | 17 | 19 | 18 | 18 | 20 | 18 | 17 | 12 | 9  | 6  | 21 | 11 | 8  | 7  | 3  | 13   |
| 17   | 3  | 1 | 1  | 1 | 1  | 1  | 1  | 6  | 20 | 20 | 20 | 16 | 15 | 15 | 13 | 12 | 12 | 12 | 19 | 5  | 4  | 3  | 3  | 2  | 9    |
| 18   | 2  | 1 | 0  | 1 | 0  | 2  | 4  | 13 | 15 | 17 | 16 | 14 | 14 | 15 | 6  | 8  | 5  | 12 | 9  | 7  | 2  | 1  | 2  | 2  | 4    |
| 19   | 1  | 2 | 1  | 2 | 2  | 2  | 0  | 3  | 7  | 8  | 5  | 7  | 5  | 5  | 6  | 9  | 7  | 6  | 4  | 2  | 3  | 8  | 4  | 1  | 8    |
| 20   | 1  | 1 | 1  | 1 | 1  | 0  | 0  | 1  | 3  | 5  | 6  | 7  | 8  | 9  | 4  | 7  | 7  | 12 | 5  | 7  | 2  | 3  | 3  | 0  | 4    |
| 21   | 0  | 2 | 2  | 0 | 2  | 0  | 1  | 2  | 5  | 6  | 7  | 7  | 8  | 7  | 7  | 9  | 6  | 7  | 5  | 2  | 4  | 2  | 1  | 3  | 6    |
| 22   | 0  | 1 | 1  | 1 | 2  | 0  | 1  | 2  | 10 | 8  | 7  | 7  | 7  | 7  | 8  | 9  | 8  | 7  | 5  | 3  | 3  | 2  | 1  | 6  | 5    |
| 23   | 5  | 2 | 2  | 2 | 2  | 4  | 6  | 8  | 15 | 16 | 17 | 17 | 16 | 16 | 16 | 16 | 9  | 10 | 9  | 9  | 5  | 9  | 3  | 5  | 10   |
| 24   | 3  | 3 | 3  | 3 | 2  | 1  | 2  | 12 | 13 | 14 | 17 | 18 | 21 | 20 | 18 | 18 | 12 | 13 | 10 | 9  | 5  | 9  | 3  | 5  | 13   |
| 25   | 0  | 2 | 4  | 6 | 10 | 7  | 3  | 7  | 11 | 12 | 9  | 8  | 10 | 15 | 14 | 13 | 13 | 13 | 11 | 4  | 2  | 1  | 1  | 1  | 7    |
| 26   | 2  | 1 | 2  | 1 | 2  | 3  | 3  | 10 | 7  | 7  | 7  | 11 | 10 | 10 | 10 | 9  | 3  | 4  | 4  | 6  | 1  | 3  | 2  | 1  | 5    |
| 27   | 3  | 4 | 2  | 2 | 4  | 3  | 6  | 9  | 11 | 12 | 10 | 6  | 6  | 14 | 13 | 4  | 8  | 7  | 2  | 3  | 1  | 1  | 1  | 2  | 4    |
| 28   | 3  | 4 | 2  | 2 | 1  | 0  | 1  | 2  | 4  | 10 | 10 | 11 | 11 | 14 | 13 | 15 | 15 | 14 | 2  | 2  | 2  | 2  | 1  | 1  | 5    |
| 29   | 2  | 0 | 1  | 1 | 1  | 1  | 0  | 3  | 5  | 6  | 6  | 8  | 8  | 10 | 9  | 9  | 7  | 5  | 4  | 9  | 5  | 5  | 4  | 4  | 7    |
| 30   | 2  | 2 | 2  | 2 | 1  | 1  | 0  | 3  | 3  | 5  | 6  | 6  | 6  | 10 | 9  | 9  | 7  | 5  | 4  | 2  | 1  | 1  | 1  | 1  | 4    |
| 31   | 1  | 1 | 1  | 1 | 1  | 1  | 1  | 1  | 3  | 5  | 6  | 7  | 7  | 5  | 5  | 5  | 4  | 8  | 7  | 4  | 1  | 3  | 0  | 0  | 3    |
| MEAN | 3  | 3 | 3  | 3 | 3  | 3  | 3  | 6  | 9  | 10 | 11 | 11 | 12 | 13 | 12 | 12 | 11 | 10 | 8  | 5  | 4  | 4  | 4  | 4  | 4    |

TOTAL NUMBER OF OBSERVATIONS = 8671. MEAN = 7.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 30 FEET(MPH)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 6  | 5  | 8  | 2  | 6  | 1  | 5  | 18 | 18 | 15 | 19 | 18 | 18 | 17 | 16 | 17 | 15 | 12 | 8  | 3  | 2  | 3  | 2  | 3  | 10   |
| 2    | 1  | 0  | 2  | 2  | 1  | 2  | 1  | 3  | 12 | 11 | 15 | 13 | 18 | 16 | 15 | 15 | 14 | 14 | 9  | 5  | 6  | 6  | 9  | 13 | 8    |
| 3    | 12 | 8  | 11 | 9  | 10 | 10 | 7  | 10 | 16 | 13 | 17 | 19 | 18 | 19 | 22 | 17 | 23 | 15 | 12 | 6  | 8  | 15 | 15 | 14 | 14   |
| 4    | 15 | 10 | 9  | 6  | 4  | 4  | 6  | 11 | 12 | 11 | 15 | 14 | 12 | 11 | 12 | 17 | 18 | 17 | 12 | 13 | 7  | 4  | 3  | 1  | 10   |
| 5    | 2  | 3  | 3  | 4  | 4  | 2  | 1  | 4  | 17 | 17 | 18 | 21 | 25 | 23 | 22 | 22 | 22 | 20 | 19 | 17 | 19 | 11 | 20 | 15 | 14   |
| 6    | 10 | 10 | 14 | 18 | 13 | 18 | 18 | 23 | 16 | 22 | 23 | 23 | 20 | 22 | 19 | 20 | 19 | 16 | 13 | 7  | 9  | 10 | 12 | 11 | 16   |
| 7    | 10 | 10 | 9  | 9  | 10 | 9  | 9  | 15 | 16 | 19 | 16 | 15 | 16 | 20 | 22 | 22 | 20 | 17 | 8  | 5  | 3  | 3  | 4  | 4  | 12   |
| 8    | 2  | 3  | 5  | 2  | 3  | 1  | 2  | 2  | 11 | 15 | 16 | 20 | 20 | 18 | 18 | 19 | 18 | 16 | 13 | 8  | 9  | 9  | 7  | 2  | 10   |
| 9    | 3  | 6  | 12 | 10 | 9  | 11 | 8  | 9  | 15 | 13 | 12 | 14 | 17 | 15 | 15 | 15 | 16 | 15 | 11 | 5  | 7  | 8  | 13 | 15 | 11   |
| 10   | 14 | 6  | 5  | 3  | 5  | 7  | 9  | 15 | 11 | 15 | 12 | 11 | 13 | 19 | 21 | 21 | 18 | 14 | 12 | 6  | 6  | 6  | 5  | 4  | 9    |
| 11   | 1  | 2  | 1  | 3  | 0  | 4  | 1  | 5  | 15 | 15 | 16 | 19 | 17 | 15 | 15 | 16 | 15 | 11 | 9  | 6  | 6  | 7  | 5  | 2  | 10   |
| 12   | 1  | 6  | 9  | 1  | 2  | 2  | 2  | 3  | 8  | 11 | 17 | 21 | 16 | 14 | 12 | 9  | 14 | 21 | 22 | 15 | 16 | 11 | 10 | 7  | 6    |
| 13   | 6  | 8  | 3  | 4  | 4  | 3  | 3  | 3  | 3  | 4  | 4  | 3  | 3  | 9  | 8  | 7  | 7  | 23 | 9  | 2  | 5  | 3  | 6  | 8  | 9    |
| 14   | 4  | 6  | 3  | 5  | 5  | 3  | 2  | 1  | 3  | 3  | 7  | 6  | 8  | 15 | 11 | 14 | 17 | 16 | 13 | 15 | 19 | 17 | 16 | 13 | 17   |
| 15   | 10 | 10 | 5  | 4  | 5  | 6  | 6  | 9  | 11 | 14 | 14 | 10 | 8  | 15 | 9  | 13 | 30 | 25 | 25 | 8  | 6  | 5  | 12 | 5  | 17   |
| 16   | 6  | 2  | 3  | 5  | 2  | 2  | 7  | 21 | 21 | 21 | 22 | 28 | 31 | 33 | 29 | 26 | 26 | 25 | 25 | 26 | 14 | 11 | 11 | 5  | 12   |
| 17   | 5  | 3  | 3  | 3  | 2  | 2  | 2  | 8  | 25 | 24 | 24 | 26 | 22 | 24 | 22 | 21 | 15 | 11 | 8  | 8  | 6  | 5  | 6  | 4  | 17   |
| 18   | 4  | 3  | 2  | 2  | 1  | 3  | 6  | 17 | 20 | 22 | 22 | 20 | 17 | 19 | 17 | 16 | 16 | 15 | 12 | 11 | 4  | 3  | 2  | 3  | 11   |
| 19   | 3  | 3  | 2  | 2  | 4  | 3  | 1  | 4  | 9  | 10 | 8  | 6  | 8  | 7  | 9  | 9  | 7  | 9  | 6  | 3  | 6  | 12 | 7  | 3  | 6    |
| 20   | 3  | 2  | 1  | 2  | 2  | 1  | 1  | 2  | 4  | 7  | 7  | 9  | 6  | 12 | 6  | 12 | 9  | 16 | 7  | 10 | 5  | 4  | 4  | 4  | 5    |
| 21   | 2  | 4  | 4  | 2  | 2  | 2  | 2  | 3  | 7  | 7  | 9  | 9  | 10 | 10 | 11 | 12 | 11 | 8  | 7  | 4  | 6  | 4  | 1  | 1  | 7    |
| 22   | 1  | 2  | 3  | 2  | 3  | 1  | 2  | 3  | 10 | 12 | 11 | 9  | 10 | 9  | 11 | 12 | 11 | 10 | 8  | 6  | 6  | 5  | 4  | 10 | 13   |
| 23   | 8  | 5  | 4  | 3  | 5  | 7  | 9  | 12 | 19 | 21 | 20 | 21 | 22 | 21 | 23 | 22 | 15 | 13 | 13 | 12 | 8  | 13 | 6  | 8  | 16   |
| 24   | 6  | 5  | 5  | 5  | 3  | 3  | 4  | 9  | 16 | 18 | 15 | 19 | 27 | 26 | 18 | 17 | 17 | 17 | 15 | 7  | 4  | 1  | 2  | 2  | 10   |
| 25   | 1  | 4  | 7  | 10 | 14 | 11 | 6  | 3  | 6  | 10 | 13 | 11 | 13 | 20 | 14 | 12 | 11 | 5  | 6  | 10 | 2  | 5  | 5  | 2  | 8    |
| 26   | 4  | 3  | 3  | 4  | 3  | 4  | 4  | 13 | 9  | 11 | 15 | 10 | 14 | 13 | 6  | 6  | 4  | 4  | 4  | 5  | 2  | 3  | 2  | 3  | 6    |
| 27   | 6  | 7  | 4  | 4  | 6  | 6  | 8  | 13 | 15 | 15 | 14 | 7  | 8  | 13 | 16 | 20 | 19 | 11 | 4  | 4  | 4  | 4  | 1  | 1  | 7    |
| 28   | 3  | 2  | 1  | 2  | 2  | 1  | 2  | 4  | 5  | 13 | 12 | 13 | 15 | 18 | 16 | 20 | 19 | 18 | 16 | 12 | 8  | 8  | 7  | 6  | 9    |
| 29   | 4  | 4  | 4  | 4  | 2  | 3  | 1  | 4  | 5  | 6  | 8  | 8  | 10 | 13 | 12 | 11 | 9  | 7  | 7  | 5  | 2  | 3  | 1  | 3  | 6    |
| 30   | 4  | 4  | 0  | 2  | 2  | 1  | 1  | 2  | 4  | 5  | 7  | 9  | 9  | 7  | 7  | 7  | 6  | 10 | 10 | 8  | 2  | 4  | 1  | 1  | 5    |
| 31   | 1  | 1  | 5  | 5  | 5  | 5  | 5  | 9  | 12 | 13 | 14 | 15 | 15 | 16 | 15 | 16 | 14 | 14 | 11 | 8  | 2  | 7  | 1  | 1  | 6    |
| MEAN | 5  | 5  | 5  | 4  | 5  | 5  | 5  | 5  | 9  | 12 | 13 | 14 | 15 | 16 | 15 | 16 | 14 | 14 | 11 | 8  | 8  | 7  | 7  | 1  | 6    |

TOTAL NUMBER OF ORSERVATIONS = 8671. MEAN = 10.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED AT 100 FEET(MPH)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1    | 9    | 9  | 11 | 1  | 9  | 2  | 8  | 21 | 21 | 17 | 22 | 20 | 20 | 19 | 18 | 20 | 18 | 14 | 10 | 5  | 3  | 4  | 2  | 3  |
| 2    | 0    | 0  | 0  | 0  | 0  | 1  | 1  | 3  | 14 | 13 | 17 | 14 | 14 | 19 | 17 | 17 | 16 | 16 | 11 | 8  | 10 | 10 | 13 | 16 |
| 3    | 17   | 13 | 16 | 15 | 14 | 12 | 11 | 12 | 18 | 15 | 20 | 22 | 21 | 22 | 25 | 19 | 26 | 17 | 14 | 8  | 11 | 18 | 18 | 17 |
| 4    | 18   | 12 | 12 | 7  | 7  | 5  | 9  | 12 | 14 | 13 | 17 | 16 | 13 | 12 | 14 | 20 | 22 | 21 | 15 | 16 | 9  | 6  | 3  | 1  |
| 5    | 3    | 3  | 2  | 3  | 3  | 3  | 1  | 5  | 19 | 19 | 20 | 24 | 28 | 27 | 25 | 25 | 25 | 22 | 22 | 20 | 23 | 13 | 24 | 18 |
| 6    | 13   | 14 | 17 | 21 | 16 | 21 | 21 | 26 | 27 | 25 | 26 | 26 | 23 | 26 | 22 | 23 | 22 | 19 | 16 | 10 | 11 | 13 | 16 | 14 |
| 7    | 13   | 13 | 12 | 13 | 14 | 12 | 11 | 16 | 18 | 21 | 18 | 17 | 18 | 23 | 25 | 25 | 22 | 20 | 10 | 6  | 1  | 3  | 4  | 4  |
| 8    | 2    | 4  | 7  | 5  | 4  | 1  | 0  | 2  | 12 | 17 | 18 | 22 | 23 | 20 | 20 | 21 | 21 | 19 | 16 | 12 | 14 | 13 | 12 | 4  |
| 9    | 7    | 10 | 16 | 14 | 12 | 13 | 10 | 10 | 17 | 15 | 14 | 16 | 19 | 17 | 17 | 17 | 18 | 17 | 13 | 7  | 11 | 12 | 16 | 18 |
| 10   | 17   | 7  | 7  | 4  | 6  | 8  | 11 | 18 | 13 | 18 | 14 | 13 | 15 | 21 | 25 | 24 | 21 | 16 | 15 | 8  | 7  | 8  | 8  | 9  |
| 11   | 3    | 1  | 1  | 2  | 2  | 5  | 3  | 6  | 17 | 16 | 18 | 21 | 19 | 17 | 16 | 19 | 17 | 14 | 11 | 7  | 10 | 10 | 6  | 1  |
| 12   | 2    | 10 | 13 | 4  | 1  | 2  | 2  | 4  | 9  | 12 | 19 | 24 | 18 | 16 | 13 | 10 | 15 | 24 | 25 | 18 | 19 | 14 | 13 | 11 |
| 13   | 10   | 12 | 4  | 6  | 8  | 3  | 4  | 4  | 3  | 4  | 5  | 3  | 4  | 10 | 9  | 8  | 8  | 27 | 12 | 2  | 6  | 4  | 7  | 11 |
| 14   | 5    | 8  | 4  | 8  | 6  | 3  | 2  | 2  | 4  | 3  | 8  | 7  | 9  | 18 | 14 | 17 | 20 | 19 | 16 | 19 | 23 | 21 | 20 | 16 |
| 15   | 13   | 12 | 7  | 4  | 7  | 9  | 8  | 10 | 14 | 16 | 16 | 11 | 10 | 17 | 11 | 16 | 8  | 4  | 9  | 10 | 11 | 13 | 15 | 10 |
| 16   | 9    | 2  | 5  | 9  | 1  | 8  | 9  | 23 | 23 | 24 | 25 | 32 | 35 | 38 | 33 | 34 | 30 | 29 | 29 | 31 | 18 | 14 | 12 | 5  |
| 17   | 5    | 3  | 3  | 3  | 1  | 3  | 3  | 9  | 28 | 28 | 27 | 30 | 25 | 28 | 25 | 24 | 17 | 13 | 9  | 10 | 8  | 5  | 7  | 5  |
| 18   | 7    | 4  | 3  | 2  | 1  | 4  | 7  | 19 | 22 | 25 | 26 | 23 | 20 | 22 | 19 | 18 | 18 | 17 | 14 | 12 | 5  | 3  | 2  | 2  |
| 19   | 1    | 1  | 2  | 2  | 3  | 3  | 2  | 4  | 10 | 12 | 9  | 7  | 9  | 7  | 10 | 10 | 8  | 10 | 8  | 5  | 7  | 15 | 9  | 3  |
| 20   | 4    | 2  | 1  | 2  | 2  | 1  | 1  | 2  | 5  | 8  | 8  | 10 | 7  | 13 | 6  | 13 | 10 | 17 | 9  | 13 | 7  | 7  | 5  | 5  |
| 21   | 3    | 3  | 3  | 4  | 4  | 1  | 2  | 3  | 8  | 7  | 10 | 10 | 11 | 11 | 10 | 11 | 8  | 9  | 7  | 5  | 8  | 5  | 2  | 1  |
| 22   | 1    | 3  | 2  | 3  | 3  | 1  | 2  | 3  | 11 | 14 | 12 | 10 | 11 | 11 | 12 | 14 | 12 | 12 | 10 | 10 | 10 | 7  | 7  | 14 |
| 23   | 12   | 5  | 3  | 3  | 6  | 9  | 10 | 13 | 21 | 24 | 23 | 24 | 24 | 24 | 24 | 23 | 15 | 15 | 15 | 10 | 7  | 7  | 7  | 8  |
| 24   | 15   | 6  | 7  | 6  | 4  | 4  | 5  | 19 | 19 | 21 | 24 | 26 | 31 | 30 | 26 | 26 | 18 | 15 | 14 | 14 | 9  | 14 | 7  | 9  |
| 25   | 7    | 6  | 8  | 13 | 17 | 13 | 5  | 10 | 15 | 17 | 17 | 22 | 20 | 22 | 21 | 20 | 20 | 20 | 18 | 9  | 5  | 2  | 2  | 3  |
| 26   | 2    | 4  | 3  | 6  | 3  | 6  | 7  | 3  | 7  | 12 | 16 | 13 | 14 | 15 | 15 | 14 | 13 | 6  | 8  | 12 | 2  | 6  | 8  | 3  |
| 27   | 5    | 2  | 3  | 6  | 8  | 9  | 5  | 15 | 11 | 13 | 17 | 11 | 16 | 15 | 6  | 6  | 4  | 5  | 5  | 6  | 2  | 5  | 3  | 2  |
| 28   | 8    | 9  | 5  | 4  | 8  | 9  | 9  | 14 | 17 | 17 | 16 | 13 | 11 | 11 | 19 | 23 | 22 | 13 | 5  | 5  | 5  | 3  | 1  | 9  |
| 29   | 3    | 2  | 1  | 2  | 3  | 2  | 3  | 4  | 6  | 14 | 13 | 14 | 17 | 20 | 19 | 23 | 22 | 21 | 18 | 14 | 10 | 10 | 8  | 7  |
| 30   | 6    | 4  | 2  | 4  | 2  | 2  | 2  | 4  | 5  | 7  | 9  | 8  | 11 | 15 | 13 | 13 | 10 | 8  | 8  | 8  | 3  | 3  | 2  | 2  |
| 31   | 0    | 3  | 0  | 1  | 3  | 1  | 0  | 2  | 4  | 5  | 8  | 10 | 10 | 8  | 7  | 8  | 7  | 12 | 12 | 11 | 2  | 3  | 1  | 0  |
| MEAN | 7    | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 10 | 14 | 15 | 16 | 17 | 17 | 17 | 18 | 16 | 16 | 13 | 11 | 9  | 9  | 9  | 7  |

TOTAL NUMBER OF OBSERVATIONS = 8671. MEAN = 12.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND SPEED AT 200 FEET(MPH)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1    | 11   | 14 | 15 | 3  | 11 | 6  | 11 | 24 | 23 | 19 | 24 | 22 | 22 | 21 | 20 | 22 | 19 | 15 | 11 | 5  | 4  | 5  | 1  | 2  |
| 2    | 1    | 0  | 0  | 0  | 1  | 0  | 1  | 3  | 15 | 13 | 18 | 15 | 23 | 19 | 18 | 18 | 17 | 17 | 13 | 8  | 12 | 11 | 15 | 16 |
| 3    | 17   | 14 | 18 | 17 | 16 | 12 | 11 | 13 | 20 | 16 | 22 | 23 | 23 | 23 | 26 | 20 | 28 | 18 | 15 | 8  | 14 | 20 | 21 | 19 |
| 4    | 21   | 14 | 14 | 8  | 8  | 7  | 13 | 13 | 14 | 13 | 18 | 16 | 13 | 13 | 15 | 21 | 23 | 23 | 16 | 17 | 11 | 7  | 5  | 1  |
| 5    | 3    | 4  | 3  | 2  | 1  | 3  | 1  | 5  | 21 | 21 | 21 | 25 | 30 | 29 | 27 | 27 | 27 | 24 | 24 | 22 | 26 | 16 | 27 | 20 |
| 6    | 16   | 15 | 20 | 24 | 18 | 23 | 23 | 28 | 29 | 27 | 28 | 28 | 25 | 28 | 24 | 25 | 24 | 21 | 17 | 12 | 11 | 14 | 16 | 15 |
| 7    | 15   | 15 | 14 | 14 | 14 | 1  | 2  | 2  | 12 | 17 | 19 | 23 | 24 | 20 | 21 | 22 | 23 | 20 | 19 | 15 | 15 | 14 | 12 | 3  |
| 8    | 1    | 2  | 7  | 8  | 5  | 1  | 12 | 10 | 17 | 13 | 15 | 17 | 20 | 18 | 18 | 19 | 19 | 18 | 14 | 9  | 14 | 14 | 19 | 8  |
| 9    | 11   | 15 | 18 | 16 | 13 | 14 | 12 | 19 | 13 | 19 | 15 | 14 | 16 | 23 | 27 | 25 | 22 | 16 | 16 | 10 | 7  | 7  | 9  | 9  |
| 10   | 20   | 8  | 9  | 5  | 7  | 10 | 12 | 5  | 18 | 17 | 19 | 21 | 20 | 18 | 18 | 20 | 19 | 15 | 13 | 7  | 10 | 10 | 6  | 1  |
| 11   | 5    | 2  | 2  | 2  | 3  | 6  | 5  | 5  | 9  | 13 | 20 | 25 | 19 | 17 | 14 | 10 | 16 | 15 | 13 | 20 | 23 | 16 | 16 | 13 |
| 12   | 2    | 13 | 14 | 6  | 2  | 5  | 3  | 4  | 9  | 4  | 4  | 3  | 4  | 10 | 9  | 8  | 8  | 26 | 14 | 2  | 7  | 6  | 7  | 13 |
| 13   | 12   | 13 | 6  | 7  | 8  | 2  | 3  | 3  | 3  | 3  | 8  | 7  | 9  | 19 | 15 | 19 | 22 | 21 | 18 | 22 | 26 | 24 | 23 | 20 |
| 14   | 6    | 8  | 6  | 10 | 7  | 11 | 2  | 11 | 15 | 17 | 16 | 11 | 10 | 19 | 12 | 17 | 9  | 5  | 11 | 13 | 15 | 16 | 19 | 12 |
| 15   | 16   | 14 | 9  | 5  | 9  | 9  | 10 | 25 | 25 | 25 | 28 | 34 | 38 | 41 | 36 | 37 | 33 | 32 | 32 | 35 | 20 | 15 | 13 | 5  |
| 16   | 10   | 4  | 6  | 11 | 11 | 3  | 2  | 10 | 31 | 30 | 29 | 33 | 27 | 30 | 27 | 26 | 19 | 13 | 9  | 11 | 9  | 6  | 8  | 6  |
| 17   | 6    | 4  | 3  | 3  | 0  | 3  | 6  | 21 | 24 | 27 | 27 | 25 | 20 | 23 | 20 | 19 | 20 | 18 | 15 | 13 | 6  | 2  | 2  | 2  |
| 18   | 7    | 4  | 5  | 2  | 1  | 4  | 2  | 4  | 10 | 12 | 9  | 7  | 9  | 7  | 9  | 10 | 7  | 11 | 8  | 5  | 7  | 15 | 10 | 3  |
| 19   | 1    | 1  | 1  | 1  | 1  | 1  | 0  | 2  | 5  | 8  | 9  | 10 | 7  | 14 | 6  | 13 | 10 | 18 | 9  | 14 | 9  | 9  | 7  | 6  |
| 20   | 3    | 1  | 1  | 3  | 6  | 2  | 1  | 3  | 7  | 7  | 10 | 10 | 11 | 11 | 11 | 11 | 9  | 10 | 7  | 5  | 8  | 7  | 3  | 1  |
| 21   | 4    | 2  | 3  | 2  | 2  | 2  | 2  | 2  | 12 | 15 | 12 | 11 | 11 | 11 | 13 | 14 | 13 | 13 | 11 | 11 | 10 | 10 | 11 | 16 |
| 22   | 1    | 2  | 1  | 4  | 7  | 8  | 12 | 14 | 22 | 26 | 25 | 25 | 26 | 26 | 27 | 25 | 16 | 16 | 16 | 11 | 10 | 10 | 11 | 16 |
| 23   | 15   | 5  | 3  | 4  | 7  | 8  | 12 | 21 | 22 | 23 | 25 | 28 | 33 | 33 | 28 | 27 | 19 | 16 | 16 | 15 | 9  | 15 | 8  | 10 |
| 24   | 7    | 6  | 7  | 6  | 4  | 3  | 6  | 21 | 20 | 23 | 26 | 28 | 33 | 33 | 23 | 27 | 19 | 21 | 19 | 10 | 5  | 4  | 3  | 4  |
| 25   | 2    | 4  | 8  | 16 | 20 | 15 | 7  | 11 | 16 | 18 | 18 | 23 | 21 | 23 | 23 | 21 | 13 | 21 | 8  | 13 | 2  | 6  | 7  | 4  |
| 26   | 5    | 1  | 2  | 6  | 3  | 6  | 5  | 17 | 8  | 12 | 18 | 13 | 15 | 16 | 16 | 15 | 13 | 6  | 8  | 7  | 2  | 7  | 3  | 4  |
| 27   | 7    | 11 | 5  | 3  | 8  | 11 | 10 | 15 | 17 | 14 | 18 | 11 | 16 | 15 | 6  | 6  | 4  | 4  | 5  | 7  | 5  | 5  | 3  | 2  |
| 28   | 7    | 7  | 0  | 1  | 3  | 3  | 4  | 4  | 6  | 15 | 17 | 8  | 11 | 21 | 20 | 25 | 25 | 13 | 5  | 15 | 12 | 11 | 9  | 8  |
| 29   | 1    | 2  | 0  | 1  | 3  | 3  | 4  | 4  | 6  | 7  | 14 | 15 | 12 | 15 | 13 | 13 | 10 | 8  | 19 | 9  | 4  | 2  | 3  | 1  |
| 30   | 6    | 4  | 1  | 4  | 1  | 1  | 1  | 3  | 4  | 5  | 8  | 9  | 12 | 15 | 7  | 8  | 7  | 12 | 8  | 12 | 3  | 0  | 1  | 0  |
| 31   | 1    | 1  | 0  | 1  | 4  | 0  | 1  | 2  | 3  | 5  | 8  | 10 | 10 | 7  | 7  | 8  | 7  | 12 | 12 | 12 | 3  | 0  | 1  | 0  |
| MEAN | 8    | 7  | 7  | 6  | 6  | 6  | 6  | 6  | 10 | 15 | 16 | 17 | 17 | 18 | 18 | 19 | 17 | 17 | 14 | 12 | 10 | 10 | 10 | 8  |

TOTAL NUMBER OF OBSERVATIONS = 8671. MEAN = 13.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

HOUR

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 189 | 169 | 218 | 82  | 154 | 40  | 176 | 198 | 208 | 203 | 211 | 201 | 202 | 203 | 213 | 204 | 215 | 213 | 231 | 58  | 173 | 174 | 216 | 206 | 192  |
| 2    | 186 | 208 | 227 | 133 | 219 | 203 | 95  | 3   | 211 | 217 | 211 | 213 |     | 220 | 226 | 212 | 218 | 223 | 231 | 215 | 219 | 200 | 195 | 182 | 207  |
| 3    | 183 | 199 | 193 | 203 | 190 | 189 | 195 | 177 | 200 | 215 | 220 | 209 | 207 | 181 | 177 | 169 | 189 | 169 | 172 | 159 | 166 | 195 | 175 | 196 | 188  |
| 4    | 189 | 175 | 210 | 225 | 227 | 229 | 291 | 315 | 299 | 310 | 309 | 297 | 301 | 279 | 259 | 230 | 221 | 236 | 290 | 327 | 317 | 297 | 224 | 200 | 261  |
| 5    | 222 | 241 | 224 | 229 | 229 | 200 | 117 | 103 | 199 | 210 | 207 | 205 | 216 | 204 | 206 | 202 | 200 | 192 | 198 | 204 | 212 | 188 | 213 | 208 | 203  |
| 6    | 201 | 172 | 175 | 173 | 173 | 183 | 186 | 189 | 192 | 209 | 202 | 208 | 206 | 200 | 203 | 211 | 208 | 206 | 202 | 191 | 178 | 184 | 177 | 175 | 191  |
| 7    | 174 | 174 | 172 | 167 | 161 | 168 | 152 | 172 | 188 | 185 | 164 | 177 | 191 | 197 | 183 | 197 | 201 | 219 | 250 | 228 | 198 | 224 | 210 | 229 | 190  |
| 8    | 199 | 156 | 163 | 174 | 179 | 123 | 64  | 56  | 184 | 199 | 196 | 178 | 177 | 184 | 192 | 204 | 211 | 216 | 212 | 204 | 225 | 227 | 236 | 99  | 184  |
| 9    | 159 | 168 | 189 | 168 | 175 | 179 | 158 | 146 | 179 | 188 | 188 | 175 | 177 | 177 | 195 | 193 | 176 | 184 | 189 | 187 | 207 | 199 | 189 | 216 | 181  |
| 10   | 205 | 223 | 239 | 227 | 222 | 219 | 215 | 221 | 218 | 195 | 224 | 228 | 234 | 233 | 222 | 221 | 234 | 228 | 221 | 185 | 184 | 225 | 226 | 233 | 219  |
| 11   | 298 | 237 | 227 | 223 | 168 | 122 | 86  | 82  | 163 | 190 | 193 | 189 | 203 | 202 | 207 | 212 | 216 | 213 | 212 | 186 | 219 | 225 | 226 | 354 | 201  |
| 12   | 185 | 188 | 189 | 352 | 35  | 202 | 80  | 101 | 204 | 216 | 188 | 189 | 176 | 173 | 150 | 142 | 154 | 195 | 183 | 143 | 148 | 124 | 150 | 149 | 163  |
| 13   | 171 | 183 | 131 | 220 | 172 | 158 | 122 | 64  | 314 | 325 | 24  | 354 | 281 | 28  | 12  | 302 | 286 | 204 | 215 | 58  | 167 | 198 | 186 | 171 | 190  |
| 14   | 121 | 214 | 231 | 222 | 173 | 121 | 70  | 100 | 201 | 188 | 178 | 175 | 200 | 222 | 237 | 218 | 224 | 225 | 239 | 216 | 225 | 226 | 225 | 218 | 201  |
| 15   | 226 | 238 | 233 | 287 | 234 | 222 | 209 | 243 | 243 | 268 | 283 | 256 | 247 | 228 | 202 | 244 | 176 | 184 | 190 | 147 | 205 | 156 | 172 | 167 | 219  |
| 16   | 187 | 73  | 222 | 194 | 160 | 144 | 165 | 183 | 186 | 186 | 179 | 186 | 189 | 197 | 196 | 186 | 196 | 198 | 200 | 206 | 236 | 298 | 295 | 337 | 194  |
| 17   | 356 | 325 | 40  | 345 | 279 | 158 | 67  | 252 | 198 | 197 | 202 | 201 | 200 | 208 | 205 | 213 | 206 | 234 | 283 | 337 | 294 | 275 | 293 | 324 | 252  |
| 18   | 319 | 321 | 256 | 211 | 194 | 69  | 51  | 200 | 196 | 202 | 202 | 211 | 221 | 216 | 220 | 214 | 238 | 237 | 279 | 322 | 306 | 174 | 223 | 228 | 229  |
| 19   | 198 | 237 | 102 | 213 | 208 | 198 | 185 | 27  | 225 | 210 | 212 | 218 | 243 | 227 | 343 | 8   | 72  | 321 | 351 | 106 | 234 | 357 | 68  | 199 | 218  |
| 20   | 194 | 251 | 117 | 194 | 210 | 217 | 236 | 337 | 321 | 321 | 323 | 345 | 323 | 315 | 270 | 318 | 315 | 354 | 1   | 327 | 288 | 254 | 235 | 233 | 286  |
| 21   | 218 | 226 | 226 | 184 | 213 | 113 | 64  | 304 | 5   | 351 | 329 | 354 | 338 | 337 | 333 | 317 | 316 | 314 | 278 | 246 | 224 | 179 | 246 | 351 | 292  |
| 22   | 168 | 93  | 175 | 204 | 227 | 122 | 41  | 33  | 235 | 213 | 214 | 246 | 244 | 217 | 212 | 200 | 211 | 215 | 218 | 208 | 228 | 170 | 169 | 169 | 199  |
| 23   | 179 | 77  | 75  | 123 | 143 | 147 | 152 | 153 | 186 | 191 | 199 | 193 | 201 | 198 | 197 | 201 | 228 |     |     |     |     |     |     |     | 171  |
| 24   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 198  |
| 25   | 148 | 151 | 143 | 179 | 203 | 360 | 161 | 169 | 203 | 209 | 202 | 198 | 197 | 198 | 195 | 205 | 204 | 228 | 232 | 222 | 173 | 170 | 162 | 175 | 205  |
| 26   | 201 | 186 | 172 | 168 | 179 | 169 | 135 | 22  | 179 | 127 | 210 | 202 | 207 | 208 | 211 | 217 | 211 | 221 | 223 | 263 | 277 | 222 | 233 | 242 | 192  |
| 27   | 254 | 177 | 206 | 212 | 284 | 216 | 141 | 207 | 232 | 203 | 231 | 3   | 257 | 315 | 351 | 54  | 10  | 44  | 17  | 333 | 170 | 320 | 248 | 187 | 250  |
| 28   | 159 | 165 | 115 | 129 | 163 | 148 | 144 | 152 | 160 | 205 | 307 | 1   | 332 |     |     |     |     | 353 | 99  | 136 | 148 | 135 | 163 | 155 | 145  |
| 29   | 255 | 214 | 166 | 175 | 208 | 347 | 81  | 73  | 230 | 213 | 214 | 192 | 202 | 211 | 239 | 233 | 233 | 288 | 315 | 314 | 340 | 49  | 29  | 10  | 237  |
| 30   | 24  | 145 | 229 | 239 | 239 | 211 | 110 | 24  | 23  | 340 | 324 | 309 | 318 | 308 | 326 | 324 | 353 | 8   | 10  | 360 | 184 | 215 | 199 | 204 | 309  |
| 31   | 231 | 207 | 213 | 226 | 225 | 190 | 87  | 62  | 15  | 344 | 354 | 345 | 1   | 302 | 5   | 341 | 29  | 332 | 319 | 325 | 220 | 223 | 248 | 177 | 298  |
| MEAN | 197 | 192 | 190 | 196 | 198 | 170 | 129 | 133 | 209 | 214 | 220 | 219 | 225 | 220 | 221 | 220 | 221 | 231 | 240 | 225 | 210 | 205 | 209 | 197 |      |

TOTAL NUMBER OF OBSERVATIONS = 8671. MEAN = 206.

; INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND DIRECTION AT 30 FEET  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | 186  | 178 | 209 | 60  | 145 | 103 | 182 | 194 | 202 | 196 | 208 | 195 | 196 | 199 | 210 | 199 | 211 | 207 | 227 | 33  | 123 | 143 | 236 | 210 |
| 2    | 303  | 172 | 225 | 130 | 225 | 202 | 82  | 340 | 207 | 212 | 206 | 213 | 213 | 220 | 206 | 212 | 218 | 226 | 226 | 211 | 196 | 187 | 186 | 174 |
| 3    | 176  | 181 | 183 | 190 | 184 | 181 | 186 | 171 | 194 | 211 | 215 | 204 | 200 | 173 | 172 | 163 | 183 | 164 | 167 | 151 | 157 | 189 | 169 | 192 |
| 4    | 184  | 169 | 204 | 226 | 231 | 231 | 289 | 307 | 292 | 302 | 301 | 290 | 295 | 274 | 254 | 226 | 215 | 229 | 283 | 319 | 310 | 293 | 229 | 210 |
| 5    | 224  | 244 | 222 | 226 | 214 | 184 | 105 | 100 | 193 | 204 | 200 | 199 | 210 | 199 | 201 | 195 | 195 | 187 | 193 | 200 | 206 | 183 | 208 | 205 |
| 6    | 198  | 165 | 168 | 164 | 167 | 174 | 179 | 182 | 185 | 201 | 196 | 202 | 198 | 195 | 195 | 204 | 204 | 201 | 196 | 190 | 169 | 171 | 170 | 165 |
| 7    | 161  | 164 | 159 | 155 | 152 | 154 | 142 | 166 | 182 | 177 | 158 | 172 | 183 | 192 | 176 | 191 | 198 | 215 | 242 | 222 | 181 | 191 | 199 | 230 |
| 8    | 204  | 157 | 148 | 165 | 185 | 111 | 63  | 36  | 177 | 192 | 191 | 171 | 170 | 177 | 184 | 199 | 205 | 209 | 207 | 200 | 208 | 206 | 204 | 126 |
| 9    | 179  | 172 | 179 | 160 | 158 | 166 | 152 | 138 | 174 | 181 | 174 | 167 | 168 | 173 | 188 | 185 | 168 | 178 | 185 | 192 | 194 | 190 | 182 | 211 |
| 10   | 202  | 219 | 232 | 227 | 217 | 213 | 209 | 217 | 213 | 189 | 218 | 221 | 227 | 227 | 214 | 216 | 227 | 223 | 216 | 187 | 169 | 201 | 200 | 191 |
| 11   | 303  | 279 | 220 | 220 | 164 | 124 | 107 | 74  | 157 | 185 | 187 | 182 | 198 | 196 | 201 | 208 | 212 | 210 | 208 | 177 | 190 | 199 | 205 | 2   |
| 12   | 192  | 182 | 179 | 204 | 14  | 155 | 52  | 101 | 206 | 211 | 184 | 183 | 170 | 168 | 143 | 137 | 148 | 190 | 177 | 136 | 142 | 117 | 143 | 141 |
| 13   | 155  | 171 | 130 | 215 | 159 | 146 | 112 | 57  | 301 | 2   | 8   | 331 | 263 | 25  | 2   | 294 | 280 | 198 | 211 | 48  | 159 | 195 | 173 | 163 |
| 14   | 117  | 207 | 223 | 222 | 171 | 119 | 67  | 91  | 197 | 182 | 174 | 170 | 198 | 218 | 239 | 214 | 220 | 220 | 234 | 211 | 219 | 221 | 221 | 164 |
| 15   | 223  | 231 | 230 | 279 | 231 | 217 | 207 | 238 | 237 | 260 | 274 | 248 | 236 | 224 | 191 | 237 | 173 | 181 | 188 | 139 | 205 | 150 | 164 | 154 |
| 16   | 174  | 73  | 208 | 172 | 142 | 127 | 157 | 176 | 179 | 177 | 173 | 179 | 184 | 190 | 190 | 179 | 191 | 193 | 195 | 201 | 231 | 289 | 289 | 327 |
| 17   | 348  | 311 | 30  | 338 | 275 | 153 | 58  | 241 | 193 | 190 | 196 | 197 | 194 | 202 | 201 | 206 | 200 | 228 | 274 | 328 | 288 | 271 | 289 | 314 |
| 18   | 317  | 317 | 284 | 208 | 118 | 62  | 52  | 196 | 191 | 196 | 197 | 205 | 214 | 210 | 214 | 209 | 234 | 230 | 274 | 314 | 312 | 159 | 202 | 204 |
| 19   | 189  | 237 | 82  | 190 | 206 | 211 | 229 | 13  | 217 | 206 | 215 | 215 | 248 | 224 | 332 | 347 | 64  | 313 | 340 | 81  | 215 | 349 | 58  | 181 |
| 20   | 171  | 249 | 122 | 162 | 201 | 221 | 237 | 332 | 315 | 315 | 309 | 339 | 316 | 309 | 253 | 311 | 307 | 346 | 355 | 320 | 293 | 262 | 242 | 237 |
| 21   | 257  | 222 | 218 | 181 | 182 | 88  | 51  | 299 | 356 | 346 | 322 | 347 | 330 | 327 | 323 | 310 | 308 | 308 | 274 | 243 | 209 | 162 | 122 | 305 |
| 22   | 356  | 127 | 151 | 184 | 219 | 114 | 22  | 27  | 229 | 209 | 206 | 240 | 241 | 214 | 207 | 195 | 206 | 212 | 215 | 201 | 207 | 168 | 182 | 169 |
| 23   | 168  | 85  | 72  | 121 | 138 | 143 | 144 | 145 | 178 | 186 | 195 | 188 | 194 | 193 | 207 | 195 | 225 |     |     |     |     |     |     |     |
| 24   |      |     |     |     |     |     |     | 193 | 197 | 203 | 198 | 191 | 191 | 193 | 189 | 198 | 199 | 224 | 228 | 217 | 167 | 165 | 159 | 169 |
| 25   | 141  | 143 | 137 | 175 | 200 | 343 | 154 | 163 | 188 | 194 | 205 | 195 | 203 | 202 | 207 | 213 | 207 | 217 | 218 | 253 | 277 | 246 | 252 | 271 |
| 26   | 219  | 162 | 184 | 160 | 175 | 164 | 129 | 7   | 175 | 117 | 209 | 215 | 210 | 210 | 209 | 223 | 301 | 269 | 334 | 313 | 90  | 153 | 183 | 131 |
| 27   | 254  | 174 | 184 | 178 | 267 | 217 | 135 | 201 | 227 | 199 | 225 | 319 | 250 | 305 | 344 | 46  | 344 | 36  | 10  | 324 | 19  | 325 | 259 | 169 |
| 28   | 152  | 158 | 114 | 136 | 159 | 136 | 138 | 146 | 154 | 199 | 296 | 353 | 321 |     |     |     |     | 347 | 89  | 130 | 143 | 129 | 162 | 164 |
| 29   | 259  | 211 | 146 | 144 | 181 | 355 | 73  | 73  | 223 | 208 | 211 | 188 | 198 | 205 | 232 | 227 | 228 | 280 | 307 | 305 | 331 | 45  | 12  | 8   |
| 30   | 16   | 130 | 223 | 240 | 222 | 202 | 94  | 14  | 12  | 331 | 316 | 311 | 310 | 302 | 318 | 322 | 345 | 360 | 4   | 354 | 143 | 177 | 171 | 189 |
| 31   | 253  | 201 | 184 | 224 | 236 | 163 | 62  | 56  | 5   | 328 | 336 | 340 | 355 | 283 | 345 | 336 | 23  | 323 | 311 | 322 | 210 | 205 | 66  | 134 |
| MEAN | 204  | 186 | 180 | 186 | 189 | 160 | 122 | 131 | 204 | 207 | 216 | 215 | 219 | 215 | 216 | 215 | 217 | 226 | 236 | 226 | 198 | 191 | 193 | 190 |

TOTAL NUMBER OF OBSERVATIONS = 8671. MEAN = 200.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

HOUR

| DAY  | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1    | 178 | 191 | 206 | 245 | 149 | 140 | 187 | 194 | 203 | 198 | 208 | 195 | 196 | 200 | 211 | 198 | 210 | 206 | 226 | 23  | 87  | 122 | 294 | 226 | 195  |
| 2    | 66  | 49  | 312 | 141 | 37  | 301 | 64  | 4   | 206 | 211 | 207 | 214 |     | 213 | 220 | 206 | 213 | 218 | 227 | 217 | 201 | 186 | 187 | 173 | 203  |
| 3    | 175 | 176 | 176 | 177 | 174 | 169 | 182 | 169 | 193 | 211 | 215 | 204 | 200 | 170 | 171 | 162 | 182 | 163 | 167 | 153 | 148 | 190 | 170 | 192 | 177  |
| 4    | 186 | 170 | 207 | 233 | 246 | 245 | 305 | 309 | 294 | 305 | 304 | 293 | 298 | 274 | 254 | 226 | 215 | 229 | 286 | 323 | 315 | 304 | 282 | 276 | 266  |
| 5    | 241 | 269 | 259 | 258 | 237 | 215 | 122 | 105 | 193 | 203 | 198 | 198 | 208 | 199 | 201 | 196 | 195 | 187 | 193 | 199 | 207 | 183 | 208 | 205 | 200  |
| 6    | 197 | 165 | 168 | 163 | 165 | 173 | 178 | 181 | 184 | 201 | 195 | 201 | 198 | 195 | 195 | 204 | 203 | 200 | 196 | 192 | 164 | 161 | 165 | 158 | 18   |
| 7    | 151 | 159 | 154 | 152 | 148 | 143 | 139 | 164 | 179 | 176 | 156 | 170 | 182 | 191 | 175 | 191 | 198 | 214 | 242 | 235 | 189 | 154 | 192 | 264 | 177  |
| 8    | 247 | 254 | 133 | 167 | 190 | 80  | 75  | 33  | 175 | 189 | 191 | 170 | 169 | 175 | 184 | 199 | 205 | 208 | 207 | 200 | 207 | 205 | 190 | 161 | 18   |
| 9    | 181 | 171 | 166 | 152 | 136 | 153 | 151 | 136 | 174 | 178 | 173 | 167 | 166 | 171 | 187 | 185 | 167 | 179 | 186 | 195 | 193 | 190 | 179 | 210 | 177  |
| 10   | 203 | 221 | 234 | 227 | 220 | 215 | 205 | 216 | 211 | 189 | 217 | 223 | 227 | 227 | 213 | 215 | 225 | 223 | 216 | 199 | 171 | 197 | 203 | 194 | 21   |
| 11   | 255 | 4   | 152 | 159 | 136 | 141 | 146 | 83  | 155 | 184 | 187 | 181 | 196 | 196 | 201 | 208 | 212 | 210 | 208 | 174 | 173 | 186 | 172 | 24  | 17   |
| 12   | 97  | 173 | 168 | 200 | 214 | 165 | 147 | 113 | 204 | 213 | 184 | 183 | 169 | 168 | 144 | 138 | 148 | 190 | 176 | 137 | 142 | 117 | 142 | 139 | 16   |
| 13   | 146 | 166 | 142 | 210 | 147 | 129 | 106 | 64  | 313 | 356 | 37  | 339 | 289 | 34  | 6   | 300 | 284 | 198 | 210 | 48  | 160 | 194 | 171 | 161 | 15   |
| 14   | 124 | 206 | 233 | 234 | 179 | 122 | 77  | 94  | 200 | 181 | 174 | 171 | 200 | 219 | 238 | 216 | 219 | 220 | 235 | 213 | 220 | 223 | 222 | 216 | 19   |
| 15   | 225 | 233 | 232 | 285 | 235 | 219 | 211 | 239 | 238 | 262 | 274 | 249 | 235 | 227 | 190 | 240 | 179 | 187 | 193 | 142 | 194 | 153 | 162 | 154 | 21   |
| 16   | 157 | 124 | 170 | 154 | 129 | 124 | 157 | 176 | 179 | 178 | 173 | 178 | 185 | 190 | 192 | 182 | 192 | 195 | 194 | 201 | 230 | 290 | 291 | 331 | 18   |
| 17   | 352 | 323 | 32  | 346 | 290 | 144 | 57  | 240 | 192 | 190 | 195 | 195 | 194 | 201 | 204 | 207 | 200 | 228 | 274 | 329 | 295 | 278 | 296 | 320 | 24   |
| 18   | 322 | 325 | 322 | 219 | 54  | 77  | 62  | 194 | 190 | 194 | 197 | 206 | 213 | 210 | 213 | 210 | 234 | 231 | 275 | 317 | 319 | 148 | 159 | 189 | 21   |
| 19   | 265 | 302 | 33  | 126 | 207 | 198 | 273 | 4   | 217 | 206 | 200 | 212 | 238 | 233 | 334 | 345 | 63  | 316 | 342 | 67  | 58  | 351 | 55  | 139 | 28   |
| 20   | 141 | 223 | 21  | 118 | 139 | 341 | 242 | 349 | 323 | 319 | 314 | 346 | 319 | 313 | 281 | 313 | 310 | 350 | 357 | 324 | 311 | 288 | 281 | 275 | 31   |
| 21   | 321 | 255 | 243 | 216 | 196 | 119 | 62  | 311 | 359 | 349 | 324 | 349 | 333 | 330 | 322 | 313 | 313 | 311 | 278 | 260 | 218 | 190 | 137 | 339 | 29   |
| 22   | 10  | 142 | 113 | 155 | 202 | 161 | 45  | 33  | 230 | 209 | 206 | 234 | 235 | 209 | 207 | 195 | 206 | 212 | 213 | 199 | 203 | 182 | 187 | 172 | 19   |
| 23   | 162 | 96  | 93  | 125 | 134 | 144 | 144 | 145 | 177 | 185 | 195 | 186 | 195 | 194 | 207 | 193 | 224 |     |     |     |     |     |     |     | 16   |
| 24   |     |     |     |     |     |     |     | 193 | 196 | 200 | 196 | 190 | 190 | 191 | 189 | 196 | 198 | 223 | 228 | 216 | 165 | 164 | 159 | 169 | 19   |
| 25   | 142 | 141 | 137 | 174 | 197 | 339 | 146 | 162 | 186 | 191 | 204 | 193 | 202 | 200 | 206 | 211 | 206 | 215 | 216 | 251 | 300 | 326 | 309 | 325 | 20   |
| 26   | 22  | 141 | 182 | 157 | 174 | 163 | 129 | 8   | 172 | 123 | 209 | 214 | 208 | 209 | 207 | 225 | 303 | 266 | 341 | 315 | 56  | 130 | 160 | 155 | 18   |
| 27   | 270 | 171 | 147 | 152 | 266 | 250 | 140 | 201 | 227 | 199 | 223 | 296 | 251 | 306 | 340 | 48  | 335 | 39  | 10  | 315 | 335 | 322 | 287 | 171 | 26   |
| 28   | 140 | 154 | 123 | 165 | 157 | 133 | 134 | 144 | 152 | 198 | 294 | 354 | 320 |     |     |     |     | 349 | 84  | 118 | 136 | 121 | 168 | 131 | 13   |
| 29   | 284 | 220 | 153 | 108 | 136 | 80  | 99  | 82  | 225 | 209 | 209 | 189 | 196 | 204 | 232 | 226 | 228 | 280 | 308 | 309 | 334 | 48  | 16  | 11  | 21   |
| 30   | 19  | 120 | 244 | 262 | 252 | 230 | 73  | 19  | 10  | 333 | 318 | 308 | 314 | 305 | 321 | 323 | 347 | 2   | 5   | 358 | 71  | 136 | 139 | 186 | 33   |
| 31   | 93  | 222 | 287 | 358 | 252 | 100 | 155 | 69  | 9   | 338 | 339 | 341 | 357 | 321 | 351 | 337 | 21  | 325 | 313 | 324 | 131 | 206 | 31  | 319 | 34   |
| MEAN | 182 | 186 | 177 | 181 | 183 | 156 | 132 | 128 | 203 | 206 | 212 | 214 | 219 | 214 | 217 | 215 | 217 | 226 | 236 | 233 | 189 | 184 | 191 | 196 | 196  |

TOTAL NUMBER OF OBSERVATIONS = 8671. MEAN = 199.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | 195  | 197 | 209 | 206 | 163 | 170 | 192 | 203 | 212 | 206 | 216 | 203 | 204 | 209 | 220 | 207 | 218 | 213 | 233 | 24  | 67  | 113 | 105 | 230 |
| 2    | 248  | 351 | 332 | 120 | 103 | 151 | 81  | 324 | 215 | 218 | 216 | 225 | 223 | 229 | 215 | 223 | 226 | 226 | 235 | 228 | 217 | 202 | 204 | 188 |
| 3    | 187  | 189 | 184 | 184 | 173 | 166 | 184 | 176 | 202 | 220 | 225 | 214 | 209 | 179 | 181 | 170 | 191 | 174 | 179 | 161 | 155 | 202 | 181 | 203 |
| 4    | 197  | 184 | 220 | 242 | 258 | 246 | 319 | 318 | 304 | 314 | 307 | 296 | 302 | 283 | 263 | 235 | 225 | 239 | 295 | 326 | 320 | 312 | 311 | 1   |
| 5    | 251  | 292 | 297 | 304 | 288 | 256 | 197 | 126 | 203 | 213 | 207 | 207 | 217 | 209 | 209 | 206 | 204 | 197 | 203 | 210 | 216 | 194 | 219 | 214 |
| 6    | 208  | 177 | 178 | 171 | 174 | 182 | 188 | 190 | 193 | 209 | 206 | 209 | 207 | 204 | 203 | 212 | 212 | 209 | 204 | 203 | 177 | 166 | 177 | 165 |
| 7    | 157  | 166 | 162 | 165 | 162 | 152 | 149 | 174 | 189 | 186 | 164 | 179 | 192 | 199 | 184 | 200 | 206 | 223 | 249 | 251 | 285 | 135 | 203 | 299 |
| 8    | 301  | 273 | 124 | 167 | 198 | 225 | 198 | 240 | 185 | 198 | 201 | 180 | 178 | 184 | 192 | 207 | 212 | 216 | 214 | 211 | 222 | 219 | 207 | 188 |
| 9    | 183  | 175 | 170 | 160 | 133 | 150 | 161 | 147 | 184 | 195 | 183 | 176 | 174 | 179 | 196 | 194 | 175 | 188 | 196 | 208 | 205 | 203 | 189 | 217 |
| 10   | 212  | 228 | 241 | 238 | 229 | 224 | 211 | 225 | 219 | 198 | 225 | 230 | 234 | 237 | 222 | 224 | 233 | 231 | 222 | 215 | 187 | 212 | 221 | 212 |
| 11   | 201  | 189 | 162 | 179 | 154 | 158 | 160 | 116 | 164 | 192 | 195 | 190 | 204 | 205 | 211 | 217 | 220 | 218 | 216 | 187 | 180 | 200 | 192 | 164 |
| 12   | 139  | 170 | 165 | 193 | 197 | 189 | 190 | 150 | 200 | 221 | 192 | 190 | 176 | 174 | 151 | 150 | 156 | 198 | 185 | 145 | 149 | 125 | 149 | 145 |
| 13   | 150  | 169 | 167 | 201 | 159 | 158 | 121 | 78  | 301 | 351 | 53  | 16  | 247 | 39  | 9   | 302 | 287 | 205 | 218 | 45  | 169 | 199 | 181 | 167 |
| 14   | 157  | 212 | 247 | 241 | 202 | 144 | 118 | 123 | 210 | 190 | 186 | 183 | 209 | 228 | 245 | 225 | 228 | 229 | 244 | 222 | 229 | 232 | 231 | 225 |
| 15   | 235  | 241 | 244 | 297 | 245 | 231 | 224 | 247 | 247 | 271 | 285 | 259 | 242 | 235 | 201 | 252 | 195 | 208 | 206 | 152 | 205 | 165 | 166 | 166 |
| 16   | 157  | 134 | 171 | 155 | 138 | 142 | 169 | 185 | 188 | 188 | 181 | 187 | 194 | 198 | 199 | 188 | 198 | 202 | 203 | 210 | 239 | 298 | 301 | 337 |
| 17   | 357  | 336 | 36  | 355 | 322 | 130 | 58  | 239 | 201 | 198 | 203 | 204 | 203 | 210 | 211 | 215 | 209 | 237 | 285 | 337 | 302 | 285 | 303 | 323 |
| 18   | 325  | 327 | 333 | 334 | 71  | 96  | 67  | 203 | 199 | 203 | 206 | 216 | 221 | 220 | 222 | 220 | 244 | 241 | 284 | 319 | 320 | 169 | 137 | 183 |
| 19   | 289  | 341 | 226 | 154 | 222 | 205 | 249 | 14  | 226 | 215 | 214 | 221 | 249 | 239 | 336 | 357 | 38  | 322 | 345 | 63  | 66  | 354 | 51  | 115 |
| 20   | 125  | 208 | 299 | 129 | 106 | 83  | 267 | 350 | 340 | 326 | 321 | 348 | 322 | 317 | 273 | 317 | 316 | 354 | 358 | 328 | 327 | 310 | 309 | 295 |
| 21   | 333  | 301 | 267 | 251 | 226 | 187 | 238 | 318 | 360 | 351 | 325 | 351 | 336 | 333 | 323 | 317 | 318 | 314 | 284 | 276 | 241 | 228 | 194 | 224 |
| 22   | 211  | 176 | 77  | 142 | 199 | 227 | 129 | 37  | 241 | 218 | 216 | 251 | 249 | 221 | 219 | 204 | 214 | 219 | 221 | 207 | 210 | 194 | 195 | 184 |
| 23   | 171  | 120 | 135 | 161 | 149 | 159 | 158 | 154 | 187 | 195 | 204 | 195 | 203 | 210 | 214 | 202 | 233 | 231 | 237 | 225 | 175 | 174 | 172 | 183 |
| 24   |      |     |     |     |     |     |     | 203 | 204 | 208 | 204 | 198 | 199 | 200 | 198 | 205 | 206 | 231 | 237 | 225 | 175 | 174 | 172 | 183 |
| 25   | 155  | 154 | 150 | 187 | 205 | 19  | 152 | 175 | 195 | 201 | 212 | 202 | 213 | 209 | 215 | 219 | 215 | 226 | 225 | 258 | 315 | 343 | 342 | 344 |
| 26   | 21   | 132 | 190 | 165 | 185 | 177 | 144 | 3   | 185 | 134 | 219 | 224 | 217 | 218 | 216 | 235 | 310 | 271 | 342 | 320 | 41  | 115 | 145 | 174 |
| 27   | 279  | 153 | 147 | 153 | 251 | 303 | 145 | 211 | 238 | 212 | 234 | 303 | 260 | 310 | 342 | 47  | 318 | 42  | 360 | 312 | 339 | 321 | 315 | 317 |
| 28   | 142  | 163 | 146 | 229 | 192 | 140 | 146 | 154 | 162 | 205 | 299 | 356 | 323 |     |     |     |     | 353 | 75  | 116 | 132 | 118 | 172 | 170 |
| 29   | 309  | 255 | 184 | 127 | 126 | 121 | 111 | 104 | 234 | 219 | 218 | 198 | 205 | 213 | 241 | 235 | 239 | 291 | 318 | 318 | 342 | 50  | 22  | 16  |
| 30   | 22   | 118 | 235 | 287 | 282 | 259 | 123 | 26  | 9   | 337 | 323 | 311 | 318 | 310 | 323 | 326 | 348 | 5   | 7   | 360 | 53  | 108 | 134 | 174 |
| 31   | 176  | 229 | 26  | 348 | 278 | 184 | 193 | 106 | 13  | 346 | 338 | 347 | 1   | 336 | 4   | 343 | 20  | 329 | 316 | 326 | 48  | 206 | 222 | 306 |
| MEAN | 203  | 195 | 191 | 191 | 190 | 175 | 164 | 170 | 212 | 216 | 222 | 223 | 226 | 223 | 226 | 225 | 229 | 236 | 247 | 248 | 220 | 194 | 196 | 207 |

TOTAL NUMBER OF OBSERVATIONS = 8671. MEAN = 211.

: INDICATES CALIBRATION DURING THE HOUR



JOURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 8 FEET  
TRAILER NO. 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 11 | 14 | 10 | 15 | 9  | 11 | 11 | 8  | 11 | 12 | 10 | 11 | 11 | 11 | 11 | 10 | 11 | 11 | 9  | 10 | 6  | 7  | 8  | 5  | 10   |
| 2    | 10 | 13 | 3  | 7  | 5  | 7  | 13 | 18 | 11 | 15 | 13 | 22 | 11 | 11 | 14 | 15 | 13 | 11 | 9  | 6  | 5  | 5  | 5  | 6  | 10   |
| 3    | 7  | 5  | 5  | 7  | 7  | 6  | 7  | 8  | 9  | 14 | 12 | 13 | 11 | 12 | 12 | 11 | 11 | 15 | 16 | 15 | 7  | 9  | 8  | 7  | 10   |
| 4    | 11 | 9  | 11 | 7  | 7  | 14 | 9  | 21 | 13 | 12 | 9  | 12 | 16 | 15 | 17 | 11 | 10 | 12 | 11 | 9  | 11 | 5  | 10 | 11 | 11   |
| 5    | 5  | 3  | 5  | 6  | 3  | 8  | 17 | 10 | 12 | 12 | 14 | 13 | 12 | 12 | 13 | 9  | 11 | 10 | 8  | 10 | 11 | 8  | 11 | 12 | 11   |
| 6    | 17 | 7  | 6  | 9  | 10 | 7  | 9  | 11 | 9  | 12 | 12 | 11 | 13 | 12 | 15 | 15 | 11 | 12 | 10 | 8  | 8  | 6  | 5  | 8  | 10   |
| 7    | 2  | 6  | 5  | 5  | 6  | 6  | 9  | 11 | 12 | 12 | 15 | 15 | 14 | 11 | 11 | 13 | 12 | 10 | 11 | 6  | 6  | 6  | 11 | 6  | 10   |
| 8    | 12 | 5  | 10 | 16 | 15 | 10 | 10 | 20 | 13 | 12 | 12 | 11 | 12 | 13 | 15 | 12 | 12 | 11 | 10 | 5  | 5  | 6  | 8  | 6  | 11   |
| 9    | 20 | 9  | 5  | 9  | 6  | 7  | 12 | 14 | 11 | 14 | 14 | 14 | 13 | 15 | 14 | 12 | 12 | 12 | 15 | 10 | 6  | 4  | 7  | 13 | 11   |
| 10   | 11 | 14 | 8  | 22 | 12 | 9  | 10 | 9  | 12 | 12 | 15 | 16 | 15 | 13 | 11 | 11 | 11 | 14 | 10 | 11 | 8  | 5  | 8  | 7  | 11   |
| 11   | 15 | 8  | 13 | 7  | 9  | 11 | 17 | 18 | 12 | 13 | 13 | 12 | 14 | 14 | 14 | 11 | 12 | 8  | 8  | 6  | 6  | 3  | 8  | 7  | 11   |
| 12   | 13 | 5  | 4  | 15 | 10 | 13 | 13 | 28 | 20 | 15 | 14 | 11 | 12 | 15 | 15 | 15 | 12 | 9  | 9  | 11 | 11 | 7  | 7  | 11 | 11   |
| 13   | 9  | 5  | 15 | 8  | 8  | 8  | 11 | 20 | 14 | 30 | 31 | 33 | 30 | 13 | 18 | 15 | 9  | 8  | 13 | 8  | 8  | 12 | 9  | 9  | 13   |
| 14   | 10 | 6  | 8  | 9  | 9  | 8  | 11 | 15 | 14 | 13 | 10 | 12 | 16 | 11 | 12 | 9  | 10 | 10 | 11 | 10 | 9  | 10 | 4  | 7  | 14   |
| 15   | 12 | 9  | 9  | 11 | 12 | 9  | 11 | 13 | 13 | 14 | 12 | 14 | 15 | 11 | 15 | 11 | 9  | 10 | 13 | 11 | 24 | 10 | 10 | 11 | 11   |
| 16   | 8  | 16 | 9  | 3  | 8  | 9  | 8  | 9  | 12 | 11 | 13 | 11 | 15 | 13 | 11 | 10 | 10 | 11 | 9  | 10 | 10 | 11 | 10 | 9  | 10   |
| 17   | 4  | 10 | 11 | 5  | 11 | 12 | 27 | 20 | 12 | 11 | 10 | 10 | 13 | 12 | 13 | 12 | 11 | 9  | 8  | 5  | 7  | 8  | 8  | 6  | 11   |
| 18   | 10 | 11 | 16 | 7  | 16 | 13 | 14 | 12 | 12 | 11 | 10 | 13 | 15 | 13 | 13 | 15 | 15 | 15 | 9  | 8  | 9  | 7  | 7  | 7  | 12   |
| 19   | 5  | 4  | 7  | 4  | 4  | 9  | 18 | 24 | 12 | 11 | 10 | 13 | 15 | 17 | 20 | 20 | 17 | 11 | 5  | 8  | 8  | 10 | 12 | 8  | 14   |
| 20   | 6  | 4  | 7  | 5  | 4  | 11 | 16 | 29 | 26 | 16 | 35 | 28 | 25 | 22 | 15 | 14 | 15 | 13 | 5  | 5  | 5  | 7  | 7  | 7  | 13   |
| 21   | 11 | 5  | 3  | 12 | 8  | 11 | 13 | 22 | 19 | 26 | 21 | 10 | 20 | 12 | 28 | 19 | 15 | 13 | 10 | 6  | 5  | 7  | 16 | 10 | 13   |
| 22   | 14 | 11 | 4  | 8  | 4  | 9  | 11 | 17 | 15 | 12 | 16 | 14 | 14 | 17 | 19 | 18 | 15 | 16 | 12 | 7  | 11 | 16 | 10 | 8  | 12   |
| 23   | 10 | 12 | 12 | 11 | 15 | 8  | 12 | 13 | 9  | 10 | 10 | 13 | 25 | 25 | 20 | 12 | 13 | 11 | 12 | 3  | 4  | 6  | 12 | 8  | 12   |
| 24   | 10 | 10 | 11 | 6  | 9  | 9  | 15 | 10 | 13 | 13 | 13 | 12 | 13 | 17 | 11 | 10 | 10 | 11 | 9  | 10 | 10 | 15 | 15 | 14 | 12   |
| 25   | 6  | 8  | 12 | 8  | 7  | 7  | 10 | 13 | 11 | 12 | 13 | 12 | 14 | 13 | 13 | 14 | 10 | 9  | 11 | 8  | 10 | 4  | 4  | 9  | 10   |
| 26   | 7  | 8  | 6  | 11 | 11 | 7  | 11 | 11 | 18 | 15 | 8  | 16 | 16 | 13 | 14 | 15 | 10 | 28 | 8  | 9  | 10 | 8  | 8  | 14 | 12   |
| 27   | 10 | 8  | 9  | 15 | 11 | 11 | 12 | 11 | 14 | 11 | 16 | 21 | 17 | 9  | 21 | 11 | 15 | 11 | 12 | 10 | 9  | 6  | 6  | 8  | 12   |
| 28   | 10 | 8  | 9  | 15 | 11 | 11 | 12 | 12 | 12 | 13 | 8  | 9  | 28 | 12 | 14 | 13 | 12 | 8  | 10 | 9  | 16 | 7  | 6  | 13 | 11   |
| 29   | 4  | 6  | 4  | 5  | 8  | 8  | 12 | 12 | 25 | 15 | 16 | 13 | 15 | 12 | 14 | 13 | 12 | 10 | 11 | 8  | 9  | 11 | 17 | 21 | 12   |
| 30   | 14 | 9  | 6  | 5  | 7  | 7  | 25 | 15 | 22 | 17 | 26 | 29 | 22 | 15 | 18 | 19 | 15 | 11 | 10 | 9  | 9  | 5  | 14 | 7  | 14   |
| 31   | 6  | 7  | 8  | 6  | 8  | 5  | 13 | 20 | 18 | 25 | 21 | 20 | 20 | 26 | 21 | 21 | 19 | 14 | 9  | 7  | 8  | 9  | 9  | 9  | 14   |
| MEAN | 10 | 8  | 8  | 9  | 9  | 9  | 13 | 15 | 15 | 14 | 15 | 15 | 16 | 14 | 15 | 13 | 12 | 12 | 10 | 8  | 9  | 8  | 9  | 9  | 9    |

TOTAL NUMBER OF OBSERVATIONS = 8653. MEAN = 12.

! INDICATES CALIBRATION DURING THE HOUR

JOURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 30 FEET  
 TRAILER NO. 23 PERIOD( 5/ 1/77 TO 5/31/77)

HOUR

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 14 | 21 | 9  | 17 | 7  | 22 | 11 | 7  | 8  | 9  | 9  | 9  | 8  | 7  | 11 | 7  | 9  | 9  | 8  | 8  | 7  | 4  | 9  | 5  | 10   |
| 2    | 12 | 12 | 4  | 5  | 5  | 4  | 10 | 25 | 8  | 12 | 10 | 12 | 8  | 10 | 11 | 10 | 10 | 8  | 5  | 2  | 5  | 3  | 2  | 2  | 8    |
| 3    | 4  | 3  | 2  | 5  | 3  | 2  | 4  | 5  | 5  | 7  | 9  | 9  | 8  | 6  | 6  | 7  | 6  | 11 | 12 | 10 | 5  | 5  | 4  | 5  | 6    |
| 4    | 5  | 5  | 7  | 6  | 5  | 10 | 8  | 4  | 6  | 10 | 8  | 8  | 16 | 10 | 13 | 11 | 8  | 7  | 7  | 7  | 5  | 5  | 9  | 9  | 8    |
| 5    | 6  | 5  | 4  | 1  | 3  | 4  | 12 | 15 | 6  | 9  | 11 | 8  | 8  | 10 | 10 | 8  | 8  | 7  | 8  | 7  | 5  | 5  | 8  | 4  | 7    |
| 6    | 5  | 3  | 4  | 5  | 5  | 6  | 7  | 7  | 7  | 9  | 7  | 10 | 9  | 9  | 11 | 10 | 8  | 8  | 7  | 4  | 3  | 3  | 2  | 4  | 6    |
| 7    | 2  | 4  | 1  | 2  | 2  | 4  | 6  | 6  | 10 | 9  | 12 | 12 | 11 | 9  | 8  | 9  | 10 | 7  | 5  | 4  | 3  | 3  | 9  | 1  | 6    |
| 8    | 12 | 6  | 8  | 17 | 12 | 12 | 6  | 19 | 7  | 10 | 11 | 7  | 8  | 8  | 10 | 9  | 8  | 7  | 13 | 4  | 3  | 3  | 8  | 17 | 9    |
| 9    | 18 | 19 | 3  | 5  | 3  | 2  | 6  | 9  | 7  | 10 | 14 | 12 | 11 | 12 | 10 | 9  | 8  | 9  | 9  | 9  | 4  | 2  | 2  | 5  | 8    |
| 10   | 4  | 11 | 5  | 15 | 8  | 4  | 7  | 6  | 9  | 9  | 11 | 13 | 12 | 8  | 9  | 9  | 10 | 9  | 6  | 5  | 3  | 3  | 6  | 12 | 8    |
| 11   | 19 | 11 | 9  | 5  | 7  | 9  | 20 | 13 | 6  | 10 | 12 | 9  | 8  | 12 | 11 | 7  | 9  | 7  | 4  | 3  | 6  | 4  | 9  | 8  | 9    |
| 12   | 12 | 4  | 2  | 25 | 9  | 15 | 12 | 6  | 20 | 16 | 31 | 28 | 22 | 11 | 13 | 13 | 6  | 5  | 2  | 7  | 6  | 7  | 5  | 2  | 10   |
| 13   | 2  | 3  | 14 | 4  | 4  | 4  | 6  | 15 | 20 | 10 | 6  | 7  | 11 | 8  | 12 | 12 | 8  | 6  | 7  | 10 | 6  | 5  | 2  | 2  | 8    |
| 14   | 9  | 4  | 5  | 6  | 4  | 6  | 7  | 15 | 10 | 8  | 10 | 9  | 10 | 9  | 15 | 7  | 6  | 6  | 7  | 8  | 7  | 6  | 7  | 7  | 7    |
| 15   | 5  | 6  | 4  | 8  | 6  | 7  | 6  | 13 | 7  | 9  | 6  | 10 | 15 | 9  | 12 | 7  | 7  | 7  | 7  | 5  | 15 | 5  | 5  | 6  | 8    |
| 16   | 3  | 11 | 8  | 4  | 5  | 6  | 5  | 8  | 7  | 9  | 9  | 7  | 7  | 6  | 7  | 8  | 7  | 9  | 7  | 6  | 7  | 5  | 3  | 7  | 8    |
| 17   | 5  | 10 | 7  | 5  | 3  | 10 | 11 | 15 | 9  | 9  | 8  | 8  | 11 | 10 | 10 | 9  | 11 | 5  | 4  | 6  | 4  | 6  | 4  | 3  | 9    |
| 18   | 4  | 9  | 13 | 7  | 14 | 13 | 10 | 7  | 10 | 8  | 9  | 11 | 9  | 10 | 11 | 12 | 9  | 10 | 7  | 4  | 3  | 5  | 4  | 3  | 8    |
| 19   | 4  | 4  | 4  | 3  | 4  | 7  | 17 | 14 | 13 | 11 | 24 | 21 | 21 | 23 | 10 | 15 | 13 | 15 | 4  | 5  | 5  | 3  | 7  | 6  | 11   |
| 20   | 3  | 4  | 6  | 3  | 5  | 6  | 7  | 20 | 24 | 16 | 18 | 12 | 16 | 10 | 26 | 10 | 13 | 7  | 4  | 3  | 2  | 6  | 3  | 4  | 10   |
| 21   | 16 | 4  | 2  | 12 | 9  | 5  | 15 | 14 | 10 | 15 | 19 | 11 | 12 | 13 | 17 | 17 | 14 | 14 | 7  | 5  | 4  | 16 | 15 | 9  | 12   |
| 22   | 11 | 7  | 2  | 4  | 7  | 5  | 8  | 11 | 13 | 10 | 13 | 15 | 18 | 21 | 16 | 9  | 9  | 8  | 10 | 5  | 3  | 4  | 8  | 3  | 9    |
| 23   | 6  | 7  | 9  | 12 | 11 | 4  | 6  | 8  | 8  | 6  | 8  | 7  | 10 | 21 | 23 | 8  | 10 | 8  | 10 | 3  | 3  | 4  | 8  | 3  | 10   |
| 24   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 25   | 9  | 5  | 6  | 4  | 5  | 6  | 11 | 9  | 9  | 7  | 7  | 9  | 9  | 12 | 10 | 9  | 8  | 6  | 6  | 7  | 5  | 6  | 12 | 9  | 8    |
| 26   | 17 | 3  | 9  | 3  | 4  | 3  | 5  | 10 | 8  | 11 | 10 | 10 | 9  | 11 | 10 | 8  | 9  | 7  | 6  | 6  | 6  | 13 | 5  | 9  | 8    |
| 27   | 12 | 4  | 4  | 13 | 6  | 6  | 7  | 6  | 12 | 8  | 9  | 13 | 14 | 9  | 9  | 11 | 9  | 23 | 5  | 4  | 9  | 5  | 2  | 10 | 9    |
| 28   | 7  | 2  | 7  | 14 | 12 | 5  | 11 | 9  | 8  | 12 | 12 | 16 | 13 | 5  | 9  | 6  | 15 | 7  | 9  | 7  | 5  | 10 | 5  | 9  | 9    |
| 29   | 5  | 3  | 3  | 4  | 6  | 11 | 11 | 12 | 19 | 12 | 18 | 5  | 12 | 11 | 12 | 10 | 5  | 7  | 6  | 5  | 10 | 4  | 6  | 14 | 8    |
| 30   | 11 | 5  | 4  | 3  | 6  | 6  | 25 | 12 | 14 | 17 | 18 | 23 | 20 | 12 | 14 | 12 | 10 | 6  | 6  | 3  | 4  | 7  | 10 | 13 | 9    |
| 31   | 5  | 12 | 11 | 7  | 4  | 3  | 11 | 15 | 15 | 15 | 18 | 15 | 16 | 27 | 18 | 19 | 21 | 9  | 6  | 5  | 8  | 4  | 8  | 5  | 11   |
| MEAN | 8  | 7  | 6  | 7  | 6  | 7  | 10 | 12 | 11 | 10 | 12 | 11 | 12 | 12 | 12 | 10 | 10 | 9  | 7  | 6  | 6  | 6  | 6  | 6  | 7    |

TOTAL NUMBER OF OBSERVATIONS = 8663, MEAN = 9.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 100 FEET  
 TRAILER NO. 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1    | 12   | 8  | 8  | 21 | 8  | 25 | 7  | 2  | 7  | 6  | 7  | 6  | 7  | 7  | 7  | 8  | 7  | 8  | 4  | 3  | 4  | 5  | 13 | 2  |
| 2    | 7    | 3  | 5  | 3  | 7  | 5  | 7  | 18 | 6  | 10 | 8  | 10 |    | 9  | 11 | 9  | 9  | 7  | 5  | 2  | 1  | 2  | 3  | 3  |
| 3    | 1    | 2  | 2  | 4  | 1  | 3  | 1  | 7  | 6  | 7  | 6  | 8  | 6  | 7  | 7  | 6  | 7  | 9  | 12 | 7  | 3  | 5  | 2  | 4  |
| 4    | 4    | 5  | 7  | 5  | 4  | 11 | 5  | 15 | 8  | 8  | 7  | 7  | 13 | 13 | 9  | 7  | 7  | 6  | 7  | 3  | 4  | 4  | 13 | 15 |
| 5    | 5    | 3  | 9  | 6  | 4  | 3  | 18 | 8  | 5  | 9  | 10 | 8  | 7  | 7  | 9  | 8  | 7  | 8  | 6  | 7  | 5  | 5  | 5  | 5  |
| 6    | 6    | 2  | 3  | 4  | 5  | 3  | 6  | 8  | 4  | 7  | 8  | 9  | 7  | 9  | 6  | 8  | 9  | 5  | 5  | 2  | 2  | 3  | 2  | 6  |
| 7    | 4    | 3  | 2  | 2  | 2  | 2  | 3  | 8  | 7  | 5  | 12 | 11 | 10 | 6  | 6  | 10 | 7  | 7  | 5  | 4  | 4  | 5  | 10 | 4  |
| 8    | 11   | 6  | 4  | 7  | 7  | 13 | 23 | 24 | 9  | 7  | 9  | 6  | 7  | 8  | 10 | 6  | 7  | 6  | 2  | 2  | 3  | 3  | 5  | 12 |
| 9    | 13   | 5  | 2  | 3  | 2  | 2  | 7  | 8  | 6  | 9  | 13 | 11 | 9  | 12 | 8  | 9  | 9  | 9  | 11 | 8  | 2  | 3  | 3  | 3  |
| 10   | 5    | 11 | 5  | 13 | 9  | 4  | 7  | 3  | 9  | 7  | 12 | 14 | 10 | 8  | 7  | 7  | 7  | 8  | 5  | 6  | 1  | 2  | 5  | 5  |
| 11   | 8    | 15 | 14 | 10 | 7  | 5  | 10 | 11 | 6  | 8  | 8  | 7  | 9  | 12 | 9  | 8  | 6  | 5  | 4  | 3  | 3  | 3  | 3  | 7  |
| 12   | 8    | 3  | 16 | 10 | 17 | 12 | 29 | 24 | 20 | 13 | 10 | 20 | 18 | 13 | 9  | 10 | 7  | 6  | 4  | 4  | 4  | 4  | 3  | 12 |
| 13   | 4    | 2  | 6  | 4  | 2  | 3  | 4  | 11 | 15 | 16 | 24 | 8  | 11 | 6  | 10 | 5  | 5  | 6  | 8  | 10 | 3  | 4  | 3  | 1  |
| 14   | 12   | 2  | 6  | 6  | 3  | 4  | 6  | 11 | 9  | 10 | 5  | 7  | 12 | 6  | 7  | 5  | 8  | 6  | 7  | 5  | 4  | 5  | 5  | 6  |
| 15   | 3    | 4  | 5  | 7  | 4  | 3  | 4  | 5  | 7  | 7  | 6  | 10 | 12 | 6  | 16 | 5  | 5  | 7  | 7  | 5  | 11 | 4  | 5  | 3  |
| 16   | 1    | 24 | 7  | 2  | 2  | 4  | 4  | 4  | 6  | 8  | 7  | 8  | 7  | 7  | 8  | 6  | 10 | 6  | 8  | 7  | 8  | 7  | 6  | 7  |
| 17   | 4    | 5  | 5  | 4  | 4  | 6  | 12 | 14 | 7  | 9  | 8  | 8  | 7  | 8  | 6  | 6  | 9  | 8  | 3  | 5  | 3  | 7  | 5  | 2  |
| 18   | 5    | 7  | 9  | 6  | 6  | 14 | 11 | 5  | 9  | 6  | 5  | 7  | 8  | 9  | 8  | 9  | 10 | 9  | 6  | 5  | 2  | 5  | 4  | 4  |
| 19   | 10   | 8  | 10 | 2  | 6  | 11 | 14 | 14 | 10 | 9  | 27 | 19 | 15 | 29 | 11 | 17 | 16 | 9  | 5  | 5  | 7  | 4  | 6  | 9  |
| 20   | 5    | 3  | 4  | 2  | 6  | 3  | 8  | 16 | 22 | 12 | 13 | 10 | 14 | 5  | 19 | 8  | 10 | 4  | 5  | 3  | 2  | 5  | 3  | 2  |
| 21   | 12   | 13 | 3  | 10 | 8  | 9  | 11 | 10 | 11 | 14 | 20 | 9  | 10 | 10 | 12 | 14 | 15 | 11 | 5  | 4  | 3  | 16 | 21 | 16 |
| 22   | 7    | 8  | 2  | 4  | 4  | 16 | 9  | 12 | 12 | 6  | 12 | 17 | 24 | 21 | 13 | 6  | 8  | 7  | 8  | 1  | 4  | 5  | 8  | 3  |
| 23   | 5    | 10 | 27 | 24 | 10 | 5  | 6  | 6  | 6  | 7  | 5  | 6  | 8  | 19 | 22 | 5  | 7  | 7  | 5  | 1  | 2  | 5  | 2  | 16 |
| 24   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 25   | 8    | 5  | 5  | 4  | 7  | 6  | 10 | 9  | 6  | 6  | 8  | 7  | 8  | 9  | 7  | 9  | 8  | 7  | 5  | 5  | 7  | 7  | 10 | 11 |
| 26   | 6    | 4  | 8  | 3  | 5  | 3  | 5  | 6  | 7  | 8  | 10 | 10 | 9  | 7  | 8  | 6  | 5  | 4  | 4  | 6  | 6  | 5  | 8  | 7  |
| 27   | 7    | 4  | 1  | 4  | 12 | 5  | 4  | 5  | 11 | 11 | 5  | 12 | 11 | 7  | 10 | 9  | 8  | 22 | 4  | 4  | 2  | 2  | 3  | 6  |
| 28   | 4    | 3  | 9  | 20 | 12 | 5  | 7  | 8  | 7  | 6  | 12 | 25 | 10 | 5  | 10 | 5  | 13 | 5  | 7  | 8  | 7  | 3  | 6  | 10 |
| 29   | 1    | 2  | 4  | 1  | 3  | 7  | 7  | 13 | 16 | 7  | 11 | 8  | 10 | 9  | 10 | 8  | 8  | 6  | 5  | 3  | 7  | 3  | 9  | 7  |
| 30   | 7    | 5  | 8  | 6  | 6  | 5  | 34 | 12 | 10 | 11 | 14 | 18 | 17 | 10 | 11 | 7  | 10 | 8  | 4  | 6  | 6  | 6  | 4  | 4  |
| 31   | 23   | 1  | 5  | 10 | 5  | 4  | 13 | 15 | 11 | 15 | 18 | 15 | 15 | 22 | 27 | 12 | 15 | 7  | 6  | 5  | 12 | 5  | 13 | 6  |
| MEAN | 7    | 6  | 7  | 7  | 6  | 7  | 12 | 10 | 9  | 9  | 11 | 11 | 11 | 10 | 10 | 8  | 9  | 7  | 6  | 5  | 5  | 5  | 6  | 6  |

TOTAL NUMBER OF OBSERVATIONS = 8562, MEAN = 8.

; INDICATES CALIBRATION DURING THE HOUR



JOURNAL VARIATION OF WIND DIRECTION STANDARD DEVIATION AT 200 FEET  
 TRAILER NO. " 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |   |   |   |   |   |   |    |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
|------|------|---|---|---|---|---|---|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
|      | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8  | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
| 1    | 7    | 4 | 4 | 7 | 6 | 4 | 4 | 3  | 3 | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3  | 3    |
| 2    | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 3    | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 4    | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 5    | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 6    | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 7    | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 8    | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 9    | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 10   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 11   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 12   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 13   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 14   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 15   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 16   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 17   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 18   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 19   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 20   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 21   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 22   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 23   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 24   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 25   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 26   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 27   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 28   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 29   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 30   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| 31   | 4    | 4 | 4 | 4 | 4 | 4 | 4 | 4  | 4 | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4  | 4    |
| MEAN | 5    | 5 | 6 | 7 | 6 | 6 | 8 | 11 | 9 | 9  | 9  | 10 | 10 | 9  | 10 | 8  | 8  | 7  | 5  | 4  | 5  | 3  | 5  | 6  | 6    |

TOTAL NUMBER OF OBSERVATIONS = 8666, MEAN = 8.

I INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL WIND DIRECTION STANDARD DEVIATION AT 200 FEET  
 TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 5  | 5  | 3  | 18 | 6  | 8  | 4  | 3  | 3  | 6  | 6  | 6  | 6  | 5  | 6  | 6  | 4  | 4  | 4  | 3  | 2  | 9  | 4  | 4  | 4    |
| 2    | 3  | 6  | 4  | 3  | 5  | 7  | 13 | 32 | 5  | 9  | 6  | 8  | 6  | 6  | 9  | 6  | 6  | 5  | 3  | 4  | 3  | 3  | 4  | 3  | 3    |
| 3    | 1  | 2  | 3  | 2  | 3  | 1  | 2  | 3  | 4  | 7  | 7  | 7  | 6  | 9  | 5  | 6  | 5  | 9  | 10 | 11 | 2  | 5  | 4  | 4  | 4    |
| 4    | 4  | 3  | 7  | 5  | 2  | 9  | 4  | 4  | 6  | 3  | 6  | 5  | 12 | 8  | 10 | 14 | 4  | 2  | 5  | 4  | 4  | 2  | 6  | 7  | 5    |
| 5    | 4  | 1  | 4  | 5  | 7  | 3  | 13 | 14 | 6  | 6  | 7  | 6  | 6  | 5  | 7  | 6  | 8  | 5  | 7  | 3  | 1  | 1  | 2  | 0  | 7    |
| 6    | 3  | 2  | 4  | 1  | 3  | 2  | 5  | 4  | 6  | 7  | 6  | 6  | 5  | 7  | 6  | 8  | 6  | 5  | 5  | 3  | 3  | 3  | 3  | 4  | 3    |
| 7    | 2  | 2  | 2  | 2  | 2  | 22 | 11 | 6  | 4  | 8  | 8  | 11 | 8  | 6  | 5  | 7  | 6  | 5  | 6  | 6  | 12 | 2  | 6  | 7  | 7    |
| 8    | 12 | 7  | 4  | 4  | 6  | 2  | 5  | 24 | 7  | 5  | 7  | 6  | 4  | 6  | 7  | 7  | 5  | 6  | 6  | 3  | 2  | 3  | 4  | 3  | 2    |
| 9    | 4  | 4  | 7  | 3  | 7  | 4  | 4  | 4  | 5  | 7  | 9  | 10 | 6  | 8  | 8  | 8  | 7  | 6  | 9  | 4  | 3  | 4  | 3  | 3  | 2    |
| 10   | 4  | 7  | 5  | 6  | 6  | 3  | 4  | 2  | 7  | 5  | 10 | 24 | 17 | 40 | 7  | 6  | 30 | 19 | 4  | 6  | 2  | 3  | 8  | 2  | 16   |
| 11   | 7  | 9  | 3  | 5  | 21 | 12 | 10 | 12 | 19 | 11 | 7  | 8  | 8  | 9  | 8  | 7  | 7  | 6  | 4  | 1  | 2  | 4  | 1  | 0  | 2    |
| 12   | 2  | 3  | 1  | 1  | 4  | 4  | 6  | 8  | 8  | 6  | 4  | 29 | 24 | 9  | 4  | 10 | 5  | 3  | 2  | 3  | 3  | 3  | 2  | 4  | 4    |
| 13   | 1  | 2  | 4  | 1  | 4  | 4  | 3  | 13 | 9  | 10 | 9  | 17 | 11 | 5  | 9  | 5  | 3  | 17 | 6  | 6  | 7  | 3  | 4  | 3  | 3    |
| 14   | 8  | 1  | 2  | 4  | 4  | 4  | 3  | 29 | 9  | 8  | 9  | 3  | 6  | 16 | 9  | 10 | 14 | 8  | 6  | 3  | 2  | 7  | 1  | 4  | 3    |
| 15   | 3  | 4  | 5  | 7  | 17 | 14 | 3  | 3  | 4  | 8  | 8  | 6  | 15 | 24 | 15 | 6  | 8  | 12 | 15 | 10 | 6  | 4  | 4  | 3  | 3    |
| 16   | 2  | 7  | 4  | 5  | 15 | 5  | 10 | 15 | 6  | 7  | 23 | 24 | 16 | 9  | 7  | 5  | 7  | 7  | 5  | 3  | 4  | 4  | 4  | 4  | 4    |
| 17   | 2  | 4  | 4  | 6  | 8  | 19 | 9  | 5  | 5  | 6  | 13 | 11 | 10 | 9  | 9  | 13 | 6  | 8  | 4  | 4  | 3  | 4  | 4  | 4  | 4    |
| 18   | 6  | 4  | 4  | 5  | 8  | 4  | 10 | 14 | 9  | 9  | 18 | 17 | 30 | 18 | 10 | 9  | 15 | 11 | 5  | 3  | 4  | 4  | 1  | 4  | 6    |
| 19   | 4  | 3  | 5  | 1  | 2  | 3  | 5  | 27 | 21 | 19 | 12 | 12 | 13 | 3  | 23 | 6  | 9  | 6  | 6  | 4  | 4  | 5  | 3  | 4  | 6    |
| 20   | 8  | 16 | 7  | 10 | 2  | 6  | 18 | 16 | 10 | 10 | 16 | 11 | 8  | 12 | 13 | 13 | 12 | 8  | 5  | 4  | 4  | 4  | 15 | 13 | 1    |
| 21   | 16 | 5  | 5  | 3  | 3  | 7  | 8  | 14 | 11 | 8  | 9  | 11 | 12 | 13 | 9  | 7  | 8  | 4  | 3  | 2  | 4  | 4  | 2  | 1  | 1    |
| 22   | 3  | 8  | 25 | 13 | 8  | 5  | 4  | 5  | 5  | 5  | 5  | 5  | 7  | 6  | 15 | 6  | 9  | 5  | 3  | 4  | 4  | 8  | 9  | 9  | 9    |
| 23   | 8  | 5  | 4  | 5  | 3  | 7  | 7  | 4  | 5  | 5  | 5  | 6  | 6  | 9  | 5  | 8  | 6  | 5  | 5  | 4  | 7  | 5  | 8  | 9  | 9    |
| 24   | 6  | 3  | 8  | 2  | 3  | 2  | 3  | 7  | 5  | 5  | 7  | 5  | 7  | 6  | 5  | 4  | 5  | 3  | 5  | 4  | 5  | 3  | 3  | 4  | 5    |
| 25   | 4  | 3  | 2  | 2  | 10 | 4  | 3  | 4  | 11 | 11 | 3  | 9  | 7  | 7  | 5  | 6  | 6  | 27 | 6  | 2  | 8  | 2  | 2  | 5  | 6    |
| 26   | 4  | 5  | 2  | 21 | 6  | 4  | 3  | 2  | 5  | 5  | 9  | 29 | 10 | 4  | 11 | 3  | 14 | 4  | 7  | 5  | 5  | 3  | 3  | 7  | 7    |
| 27   | 4  | 5  | 11 | 4  | 3  | 4  | 7  | 5  | 5  | 8  | 6  | 5  | 9  | 7  | 7  | 5  | 5  | 4  | 4  | 4  | 5  | 5  | 2  | 8  | 8    |
| 28   | 6  | 4  | 4  | 1  | 3  | 3  | 2  | 9  | 14 | 5  | 8  | 7  | 9  | 7  | 7  | 5  | 5  | 5  | 4  | 3  | 5  | 5  | 8  | 8  | 8    |
| 29   | 4  | 4  | 14 | 4  | 3  | 5  | 28 | 13 | 8  | 14 | 9  | 13 | 12 | 8  | 9  | 10 | 10 | 8  | 3  | 6  | 6  | 4  | 4  | 4  | 4    |
| 30   | 6  | 3  | 5  | 3  | 5  | 3  | 2  | 12 | 11 | 11 | 13 | 11 | 10 | 20 | 17 | 15 | 16 | 8  | 6  | 2  | 12 | 3  | 3  | 4  | 4    |
| 31   | 4  | 9  | 5  | 5  | 6  | 6  | 7  | 11 | 8  | 8  | 10 | 11 | 10 | 10 | 9  | 8  | 8  | 7  | 5  | 4  | 5  | 3  | 4  | 4  | 5    |
| MEAN | 5  | 5  | 5  | 5  | 6  | 6  | 7  | 11 | 8  | 8  | 10 | 11 | 10 | 10 | 9  | 8  | 8  | 7  | 5  | 4  | 5  | 3  | 4  | 4  | 5    |

TOTAL NUMBER OF OBSERVATIONS = 8648. MEAN = 7.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF TEMPERATURE AT 8 FEET (DEG F)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 49 | 49 | 50 | 47 | 47 | 46 | 48 | 54 | 56 | 56 | 55 | 52 | 51 | 50 | 54 | 53 | 54 | 54 | 50 | 45 | 41 | 40 | 37 | 36 | 49   |
| 2    | 37 | 38 | 36 | 37 | 36 | 35 | 40 | 47 | 53 | 56 | 57 | 59 | 55 | 62 | 62 | 62 | 61 | 61 | 56 | 50 | 45 | 47 | 44 | 48 | 49   |
| 3    | 49 | 45 | 46 | 43 | 44 | 45 | 45 | 51 | 54 | 56 | 57 | 57 | 55 | 56 | 55 | 53 | 50 | 48 | 48 | 45 | 42 | 42 | 41 | 42 | 49   |
| 4    | 43 | 41 | 42 | 40 | 38 | 36 | 36 | 40 | 43 | 44 | 47 | 50 | 50 | 52 | 54 | 54 | 55 | 53 | 51 | 47 | 44 | 43 | 38 | 38 | 45   |
| 5    | 37 | 36 | 33 | 30 | 28 | 28 | 33 | 40 | 51 | 52 | 55 | 57 | 59 | 59 | 61 | 61 | 60 | 58 | 57 | 55 | 53 | 51 | 52 | 50 | 48   |
| 6    | 47 | 45 | 46 | 46 | 44 | 44 | 47 | 49 | 51 | 54 | 57 | 58 | 60 | 62 | 61 | 62 | 61 | 59 | 59 | 52 | 49 | 48 | 49 | 48 | 52   |
| 7    | 47 | 46 | 44 | 44 | 43 | 43 | 49 | 53 | 55 | 57 | 60 | 62 | 65 | 67 | 66 | 67 | 67 | 63 | 59 | 55 | 50 | 45 | 43 | 42 | 54   |
| 8    | 43 | 43 | 42 | 41 | 40 | 40 | 43 | 50 | 57 | 59 | 61 | 63 | 64 | 64 | 67 | 67 | 67 | 66 | 63 | 56 | 49 | 47 | 45 | 46 | 54   |
| 9    | 47 | 47 | 48 | 46 | 45 | 46 | 52 | 58 | 60 | 63 | 65 | 66 | 68 | 69 | 70 | 71 | 70 | 70 | 67 | 61 | 54 | 53 | 56 | 55 | 59   |
| 10   | 51 | 47 | 44 | 42 | 40 | 38 | 39 | 38 | 36 | 35 | 40 | 44 | 46 | 49 | 50 | 50 | 50 | 49 | 46 | 42 | 37 | 33 | 32 | 32 | 42   |
| 11   | 32 | 31 | 31 | 31 | 33 | 33 | 35 | 43 | 51 | 53 | 55 | 58 | 59 | 61 | 61 | 60 | 60 | 58 | 56 | 50 | 43 | 42 | 40 | 42 | 46   |
| 12   | 40 | 41 | 43 | 42 | 41 | 40 | 43 | 52 | 58 | 60 | 61 | 62 | 62 | 62 | 64 | 63 | 63 | 59 | 54 | 53 | 53 | 51 | 49 | 47 | 53   |
| 13   | 44 | 45 | 44 | 41 | 42 | 42 | 46 | 50 | 55 | 55 | 59 | 58 | 58 | 56 | 59 | 61 | 58 | 44 | 41 | 40 | 40 | 38 | 38 | 39 | 48   |
| 14   | 37 | 35 | 35 | 34 | 32 | 31 | 32 | 32 | 35 | 35 | 36 | 37 | 39 | 42 | 41 | 40 | 41 | 41 | 40 | 39 | 40 | 40 | 39 | 39 | 37   |
| 15   | 39 | 40 | 39 | 39 | 38 | 39 | 39 | 43 | 45 | 48 | 49 | 49 | 48 | 48 | 50 | 43 | 42 | 42 | 39 | 39 | 39 | 38 | 38 | 38 | 42   |
| 16   | 35 | 34 | 34 | 34 | 36 | 37 | 41 | 45 | 47 | 50 | 52 | 55 | 57 | 58 | 58 | 59 | 57 | 56 | 53 | 54 | 51 | 44 | 39 | 36 | 46   |
| 17   | 33 | 33 | 33 | 31 | 31 | 32 | 35 | 41 | 45 | 46 | 47 | 49 | 50 | 57 | 58 | 58 | 56 | 54 | 51 | 46 | 44 | 42 | 42 | 40 | 43   |
| 18   | 38 | 36 | 32 | 30 | 31 | 30 | 35 | 41 | 45 | 46 | 47 | 49 | 50 | 57 | 58 | 58 | 56 | 54 | 51 | 46 | 44 | 42 | 42 | 40 | 40   |
| 19   | 29 | 27 | 27 | 28 | 25 | 27 | 32 | 39 | 44 | 46 | 46 | 48 | 50 | 50 | 50 | 49 | 49 | 48 | 43 | 40 | 36 | 34 | 30 | 29 | 35   |
| 20   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 21   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 22   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 23   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 24   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 25   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 26   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 27   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 28   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 29   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 30   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 31   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| MEAN | 41 | 40 | 39 | 38 | 38 | 37 | 41 | 46 | 50 | 51 | 53 | 55 | 56 | 57 | 58 | 57 | 57 | 55 | 52 | 48 | 45 | 43 | 42 | 42 |      |

TOTAL NUMBER OF OBSERVATIONS = 5202. MEAN = 48.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE AT 30 FEET (DEG F)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 1    | 54 | 49 | 54 | 51 | 51 | 49 | 51 | 56 | 56 | 56 | 56 | 53 | 52 | 50 | 54 | 53 | 55 | 55 | 52 | 48 | 45 | 45 | 41 | 41 | 51   |
| 2    | 41 | 40 | 41 | 41 | 40 | 40 | 42 | 48 | 53 | 56 | 57 | 58 | 56 | 61 | 62 | 62 | 62 | 61 | 59 | 55 | 52 | 53 | 51 | 51 | 52   |
| 3    | 52 | 50 | 50 | 49 | 49 | 49 | 48 | 53 | 56 | 56 | 58 | 57 | 56 | 56 | 56 | 54 | 50 | 49 | 49 | 46 | 45 | 44 | 42 | 44 | 51   |
| 4    | 44 | 43 | 44 | 43 | 41 | 40 | 37 | 40 | 42 | 44 | 46 | 49 | 50 | 52 | 54 | 55 | 55 | 54 | 52 | 49 | 47 | 45 | 43 | 42 | 46   |
| 5    | 41 | 39 | 37 | 36 | 35 | 33 | 35 | 41 | 51 | 52 | 54 | 57 | 58 | 59 | 60 | 61 | 61 | 59 | 59 | 57 | 55 | 54 | 54 | 52 | 50   |
| 6    | 49 | 48 | 49 | 48 | 46 | 46 | 47 | 49 | 51 | 54 | 56 | 58 | 59 | 61 | 61 | 62 | 62 | 61 | 60 | 57 | 55 | 53 | 52 | 51 | 54   |
| 7    | 51 | 50 | 50 | 49 | 47 | 47 | 50 | 53 | 55 | 57 | 60 | 63 | 64 | 66 | 67 | 68 | 67 | 66 | 62 | 59 | 56 | 56 | 50 | 48 | 57   |
| 8    | 49 | 47 | 47 | 46 | 45 | 45 | 45 | 52 | 57 | 59 | 61 | 63 | 64 | 65 | 67 | 68 | 68 | 67 | 65 | 61 | 55 | 55 | 54 | 51 | 57   |
| 9    | 52 | 51 | 53 | 50 | 50 | 50 | 54 | 58 | 61 | 63 | 64 | 66 | 68 | 69 | 70 | 71 | 71 | 71 | 69 | 66 | 61 | 60 | 60 | 58 | 61   |
| 10   | 53 | 49 | 46 | 44 | 42 | 40 | 40 | 39 | 37 | 35 | 39 | 42 | 46 | 48 | 49 | 49 | 50 | 49 | 48 | 44 | 42 | 40 | 38 | 38 | 44   |
| 11   | 36 | 35 | 35 | 35 | 36 | 36 | 37 | 44 | 50 | 52 | 54 | 56 | 58 | 60 | 61 | 61 | 61 | 60 | 58 | 55 | 53 | 52 | 47 | 45 | 49   |
| 12   | 46 | 46 | 47 | 45 | 45 | 44 | 44 | 53 | 59 | 60 | 61 | 62 | 63 | 63 | 64 | 64 | 64 | 60 | 55 | 55 | 55 | 53 | 51 | 49 | 55   |
| 13   | 48 | 48 | 47 | 46 | 45 | 45 | 48 | 52 | 56 | 57 | 60 | 60 | 60 | 57 | 60 | 61 | 60 | 45 | 42 | 42 | 41 | 41 | 41 | 41 | 50   |
| 14   | 40 | 39 | 38 | 37 | 33 | 32 | 32 | 33 | 35 | 37 | 37 | 38 | 40 | 42 | 41 | 41 | 42 | 42 | 41 | 40 | 41 | 40 | 40 | 40 | 38   |
| 15   | 40 | 41 | 41 | 41 | 40 | 40 | 40 | 44 | 46 | 48 | 49 | 49 | 49 | 48 | 50 | 45 | 43 | 44 | 40 | 40 | 41 | 40 | 39 | 39 | 43   |
| 16   | 38 | 37 | 37 | 37 | 39 | 40 | 43 | 46 | 48 | 50 | 52 | 55 | 56 | 58 | 59 | 58 | 57 | 57 | 56 | 55 | 52 | 45 | 39 | 36 | 48   |
| 17   | 35 | 35 | 34 | 33 | 33 | 33 | 33 | 41 | 45 | 47 | 45 | 46 | 53 | 55 | 57 | 56 | 55 | 54 | 51 | 46 | 44 | 43 | 41 | 40 | 44   |
| 18   | 38 | 36 | 33 | 32 | 31 | 30 | 34 | 40 | 42 | 44 | 45 | 46 | 47 | 48 | 48 | 47 | 47 | 46 | 43 | 38 | 36 | 35 | 33 | 32 | 40   |
| 19   | 30 | 30 | 28 | 30 | 28 | 28 | 31 | 37 | 42 | 44 | 45 | 46 | 47 | 48 | 48 | 47 | 47 | 46 | 43 | 38 | 36 | 35 | 33 | 32 | 35   |
| 20   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 21   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 22   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 23   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 24   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 25   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 26   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 27   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 28   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 29   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 30   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| 31   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| MEAN | 44 | 43 | 43 | 42 | 41 | 40 | 42 | 46 | 50 | 51 | 53 | 54 | 55 | 57 | 58 | 58 | 57 | 56 | 53 | 51 | 49 | 47 | 45 | 44 |      |

TOTAL NUMBER OF OBSERVATIONS = 5280. MEAN = 49.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE AT 100 FEET (DEG F)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1    | 56   | 50 | 55 | 52 | 52 | 50 | 50 | 55 | 55 | 55 | 54 | 51 | 50 | 48 | 52 | 52 | 53 | 53 | 51 | 47 | 45 | 45 | 42 | 42 |
| 2    | 41   | 41 | 41 | 41 | 41 | 40 | 41 | 47 | 51 | 54 | 55 | 56 | 54 | 59 | 60 | 60 | 60 | 60 | 58 | 56 | 55 | 54 | 52 | 53 |
| 3    | 53   | 52 | 52 | 51 | 50 | 50 | 49 | 52 | 55 | 55 | 56 | 55 | 54 | 55 | 53 | 52 | 48 | 48 | 48 | 46 | 45 | 43 | 42 | 43 |
| 4    | 43   | 42 | 44 | 43 | 42 | 40 | 38 | 39 | 40 | 42 | 44 | 47 | 48 | 50 | 52 | 53 | 53 | 53 | 51 | 48 | 46 | 44 | 43 | 42 |
| 5    | 41   | 38 | 37 | 36 | 35 | 34 | 34 | 40 | 49 | 50 | 52 | 54 | 55 | 56 | 58 | 58 | 59 | 58 | 56 | 56 | 54 | 53 | 53 | 51 |
| 6    | 49   | 49 | 49 | 47 | 46 | 45 | 46 | 48 | 49 | 51 | 53 | 55 | 56 | 59 | 59 | 60 | 60 | 60 | 59 | 57 | 55 | 55 | 54 | 52 |
| 7    | 52   | 51 | 50 | 50 | 48 | 48 | 49 | 52 | 53 | 55 | 58 | 60 | 62 | 64 | 64 | 65 | 65 | 64 | 61 | 58 | 57 | 57 | 54 | 50 |
| 8    | 51   | 49 | 49 | 48 | 47 | 46 | 47 | 51 | 56 | 57 | 59 | 60 | 62 | 63 | 65 | 66 | 66 | 65 | 64 | 62 | 58 | 58 | 58 | 54 |
| 9    | 54   | 53 | 54 | 53 | 53 | 52 | 54 | 57 | 59 | 61 | 62 | 64 | 66 | 66 | 68 | 69 | 69 | 69 | 68 | 65 | 62 | 61 | 60 | 57 |
| 10   | 52   | 48 | 46 | 43 | 42 | 39 | 39 | 38 | 36 | 34 | 38 | 41 | 43 | 45 | 46 | 47 | 48 | 48 | 47 | 44 | 43 | 43 | 42 | 41 |
| 11   | 38   | 37 | 37 | 36 | 37 | 37 | 37 | 43 | 48 | 50 | 52 | 54 | 56 | 58 | 59 | 59 | 59 | 59 | 57 | 56 | 56 | 54 | 52 | 47 |
| 12   | 48   | 48 | 50 | 46 | 45 | 45 | 46 | 53 | 57 | 58 | 59 | 60 | 61 | 61 | 62 | 62 | 62 | 59 | 54 | 54 | 54 | 52 | 50 | 49 |
| 13   | 47   | 48 | 47 | 47 | 47 | 46 | 47 | 51 | 55 | 56 | 58 | 58 | 58 | 56 | 58 | 59 | 59 | 43 | 41 | 41 | 41 | 41 | 41 | 41 |
| 14   | 40   | 39 | 39 | 36 | 32 | 31 | 31 | 32 | 34 | 36 | 36 | 37 | 39 | 41 | 40 | 40 | 41 | 41 | 40 | 39 | 40 | 39 | 39 | 39 |
| 15   | 40   | 40 | 40 | 40 | 39 | 39 | 39 | 43 | 44 | 47 | 48 | 48 | 47 | 46 | 49 | 44 | 42 | 43 | 39 | 39 | 40 | 39 | 39 | 39 |
| 16   | 38   | 36 | 37 | 38 | 40 | 41 | 42 | 45 | 47 | 48 | 50 | 52 | 53 | 55 | 56 | 56 | 56 | 56 | 55 | 54 | 51 | 44 | 38 | 35 |
| 17   | 34   | 34 | 33 | 32 | 32 | 32 | 32 | 40 | 43 | 45 | 47 | 49 | 52 | 53 | 54 | 54 | 53 | 53 | 50 | 45 | 43 | 42 | 40 | 39 |
| 18   | 37   | 35 | 33 | 32 | 31 | 31 | 34 | 39 | 41 | 42 | 43 | 44 | 45 | 45 | 46 | 45 | 45 | 45 | 42 | 37 | 35 | 35 | 34 | 34 |
| 19   | 32   | 31 | 29 | 31 | 30 | 29 | 30 | 36 | 40 | 42 | 43 | 45 | 45 | 45 | 46 | 45 | 45 | 45 | 42 | 37 | 35 | 35 | 34 | 35 |
| 20   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 21   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 22   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 23   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 24   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 25   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 26   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 27   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 28   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 29   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 30   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 31   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MEAN | 44   | 43 | 43 | 42 | 41 | 41 | 41 | 45 | 48 | 49 | 51 | 52 | 53 | 54 | 56 | 56 | 56 | 54 | 52 | 50 | 49 | 48 | 46 | 45 |

TOTAL NUMBER OF OBSERVATIONS = 5296. MEAN = 49.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF TEMPERATURE AT 200 FEET(DEG F)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1    | 57   | 51 | 55 | 52 | 52 | 49 | 50 | 54 | 55 | 54 | 54 | 50 | 49 | 48 | 51 | 51 | 53 | 52 | 50 | 46 | 45 | 44 | 42 | 41 |
| 2    | 40   | 40 | 41 | 41 | 42 | 40 | 43 | 46 | 50 | 53 | 54 | 56 | 54 | 59 | 59 | 60 | 60 | 60 | 57 | 56 | 55 | 54 | 53 | 52 |
| 3    | 53   | 52 | 53 | 52 | 51 | 50 | 49 | 51 | 54 | 54 | 56 | 55 | 54 | 53 | 52 | 51 | 48 | 46 | 47 | 45 | 45 | 42 | 41 | 42 |
| 4    | 42   | 42 | 43 | 42 | 42 | 41 | 38 | 37 | 40 | 41 | 44 | 47 | 47 | 49 | 51 | 53 | 54 | 53 | 50 | 47 | 45 | 44 | 43 | 42 |
| 5    | 40   | 38 | 36 | 35 | 35 | 33 | 33 | 39 | 48 | 50 | 51 | 54 | 56 | 56 | 58 | 58 | 59 | 57 | 57 | 55 | 53 | 53 | 52 | 50 |
| 6    | 48   | 48 | 48 | 46 | 45 | 44 | 45 | 47 | 48 | 51 | 54 | 55 | 56 | 59 | 58 | 60 | 60 | 59 | 58 | 57 | 55 | 55 | 54 | 53 |
| 7    | 52   | 51 | 50 | 49 | 48 | 47 | 48 | 50 | 52 | 54 | 57 | 59 | 61 | 63 | 63 | 65 | 66 | 64 | 60 | 58 | 57 | 57 | 54 | 51 |
| 8    | 51   | 49 | 49 | 50 | 48 | 46 | 47 | 50 | 54 | 56 | 58 | 59 | 60 | 62 | 64 | 66 | 66 | 65 | 64 | 62 | 59 | 59 | 59 | 56 |
| 9    | 55   | 55 | 55 | 53 | 54 | 53 | 54 | 55 | 58 | 60 | 61 | 63 | 64 | 65 | 67 | 68 | 68 | 69 | 67 | 65 | 63 | 62 | 60 | 56 |
| 10   | 51   | 47 | 45 | 42 | 41 | 38 | 37 | 37 | 34 | 33 | 37 | 40 | 43 | 46 | 47 | 48 | 48 | 47 | 46 | 43 | 42 | 42 | 42 | 42 |
| 11   | 40   | 38 | 37 | 36 | 36 | 36 | 37 | 42 | 47 | 49 | 51 | 53 | 55 | 57 | 58 | 59 | 59 | 58 | 57 | 56 | 55 | 53 | 52 | 48 |
| 12   | 49   | 49 | 52 | 47 | 45 | 45 | 47 | 52 | 56 | 57 | 58 | 59 | 59 | 60 | 61 | 61 | 61 | 58 | 53 | 53 | 53 | 52 | 50 | 49 |
| 13   | 48   | 47 | 46 | 46 | 47 | 46 | 46 | 49 | 54 | 55 | 57 | 57 | 57 | 55 | 55 | 58 | 58 | 43 | 40 | 40 | 40 | 40 | 40 | 40 |
| 14   | 39   | 39 | 38 | 36 | 31 | 30 | 31 | 31 | 32 | 34 | 34 | 35 | 37 | 40 | 39 | 39 | 40 | 40 | 39 | 38 | 40 | 38 | 38 | 36 |
| 15   | 38   | 39 | 39 | 39 | 38 | 38 | 39 | 41 | 43 | 46 | 48 | 47 | 46 | 45 | 47 | 43 | 41 | 42 | 38 | 38 | 39 | 39 | 38 | 41 |
| 16   | 38   | 36 | 37 | 38 | 40 | 40 | 42 | 44 | 45 | 47 | 49 | 51 | 53 | 55 | 56 | 55 | 55 | 55 | 54 | 54 | 51 | 43 | 37 | 34 |
| 17   | 33   | 33 | 32 | 31 | 31 | 30 | 30 | 39 | 43 | 45 | 45 | 48 | 50 | 52 | 55 | 54 | 52 | 52 | 49 | 44 | 42 | 41 | 39 | 38 |
| 18   | 36   | 34 | 32 | 30 | 30 | 30 | 32 | 38 | 40 | 42 | 43 | 44 | 45 | 46 | 46 | 45 | 45 | 45 | 41 | 36 | 34 | 34 | 33 | 33 |
| 19   | 31   | 31 | 29 | 30 | 30 | 30 | 30 | 34 | 39 | 41 | 42 | 43 | 44 | 45 | 46 | 45 | 45 | 45 | 41 | 36 | 34 | 34 | 33 | 34 |
| 20   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 21   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 22   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 23   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 24   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 25   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 26   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 27   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 28   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 29   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 30   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 31   |      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MEAN | 44   | 43 | 43 | 42 | 41 | 40 | 41 | 44 | 47 | 48 | 50 | 51 | 53 | 54 | 55 | 55 | 55 | 54 | 51 | 50 | 49 | 47 | 46 | 45 |

TOTAL NUMBER OF OBSERVATIONS = 5299. MEAN = 48.

: INDICATES CALIBRATION DURING THE HOUR

HOURLY TOTAL SOLAR RADIATION(LANGLEY)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY      | 1 | 2 | 3 | 4 | 5 | 6 | 7  | 8  | 9  | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18 | 19 | 20 | 21 | 22 | 23 | 24 | TOTAL |
|----------|---|---|---|---|---|---|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-------|
| 1        | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 18 | 36 | 41  | 56  | 27  | 33  | 35  | 49  | 23  | 30  | 22 | 4  | 0  | 0  | 0  | 0  | 0  | 386   |
| 2        | 0 | 0 | 0 | 0 | 0 | 2 | 14 | 31 | 46 | 63  | 72  | 79  | 7   | 71  | 68  | 55  | 37  | 23 | 2  | 0  | 0  | 0  | 0  | 0  | 570   |
| 3        | 0 | 0 | 0 | 0 | 0 | 1 | 6  | 18 | 22 | 38  | 39  | 39  | 19  | 46  | 52  | 18  | 27  | 18 | 8  | 0  | 0  | 0  | 0  | 0  | 351   |
| 4        | 0 | 0 | 0 | 0 | 0 | 1 | 6  | 23 | 49 | 41  | 34  | 55  | 43  | 32  | 37  | 39  | 39  | 10 | 2  | 0  | 0  | 0  | 0  | 0  | 411   |
| 5        | 0 | 0 | 0 | 0 | 0 | 2 | 15 | 33 | 49 | 63  | 72  | 80  | 81  | 77  | 68  | 57  | 39  | 13 | 7  | 0  | 0  | 0  | 0  | 0  | 656   |
| 6        | 0 | 0 | 0 | 0 | 0 | 3 | 17 | 26 | 37 | 58  | 77  | 83  | 77  | 58  | 40  | 54  | 36  | 16 | 7  | 0  | 0  | 0  | 0  | 0  | 589   |
| 7        | 0 | 0 | 0 | 0 | 0 | 2 | 17 | 34 | 50 | 63  | 74  | 75  | 79  | 72  | 64  | 56  | 40  | 15 | 3  | 0  | 0  | 0  | 0  | 0  | 644   |
| 8        | 0 | 0 | 0 | 0 | 0 | 3 | 15 | 33 | 50 | 63  | 74  | 80  | 70  | 50  | 67  | 55  | 40  | 24 | 7  | 0  | 0  | 0  | 0  | 0  | 631   |
| 9        | 0 | 0 | 0 | 0 | 0 | 3 | 16 | 33 | 50 | 62  | 73  | 73  | 75  | 66  | 60  | 57  | 42  | 33 | 11 | 0  | 0  | 0  | 0  | 0  | 654   |
| 10       | 0 | 0 | 0 | 0 | 0 | 2 | 8  | 8  | 7  | 22  | 21  | 51  | 64  | 52  | 57  | 59  | 42  | 25 | 8  | 0  | 0  | 0  | 0  | 0  | 426   |
| 11       | 0 | 0 | 0 | 0 | 0 | 3 | 18 | 35 | 52 | 64  | 71  | 81  | 69  | 70  | 46  | 38  | 36  | 8  | 4  | 0  | 0  | 0  | 0  | 0  | 595   |
| 12       | 0 | 0 | 0 | 0 | 0 | 3 | 18 | 35 | 52 | 55  | 64  | 58  | 47  | 57  | 54  | 28  | 23  | 14 | 3  | 0  | 0  | 0  | 0  | 0  | 511   |
| 13       | 0 | 0 | 0 | 0 | 0 | 2 | 17 | 33 | 46 | 43  | 74  | 23  | 16  | 31  | 54  | 34  | 6   | 3  | 1  | 0  | 0  | 0  | 0  | 0  | 383   |
| 14       | 0 | 0 | 0 | 0 | 0 | 0 | 3  | 8  | 16 | 11  | 10  | 29  | 32  | 38  | 16  | 23  | 16  | 5  | 2  | 0  | 0  | 0  | 0  | 0  | 209   |
| 15       | 0 | 0 | 0 | 0 | 0 | 1 | 9  | 34 | 32 | 50  | 56  | 27  | 26  | 65  | 41  | 12  | 16  | 5  | 0  | 0  | 0  | 0  | 0  | 0  | 374   |
| 16       | 0 | 0 | 0 | 0 | 0 | 3 | 18 | 33 | 50 | 65  | 78  | 82  | 83  | 79  | 68  | 38  | 16  | 11 | 2  | 0  | 0  | 0  | 0  | 0  | 626   |
| 17       | 0 | 0 | 0 | 0 | 0 | 4 | 17 | 35 | 51 | 65  | 76  | 82  | 81  | 77  | 63  | 40  | 30  | 19 | 3  | 0  | 0  | 0  | 0  | 0  | 643   |
| 18       | 0 | 0 | 0 | 0 | 0 | 4 | 19 | 37 | 50 | 64  | 73  | 85  | 82  | 80  | 71  | 59  | 50  | 37 | 6  | 0  | 0  | 0  | 0  | 0  | 717   |
| 19       | 0 | 0 | 0 | 0 | 0 | 5 | 20 | 37 | 54 | 68  | 74  | 52  | 75  | 51  | 29  | 19  | 8   | 10 | 4  | 0  | 0  | 0  | 0  | 0  | 506   |
| 20       | 0 | 0 | 0 | 0 | 0 | 6 | 14 | 34 | 46 | 57  | 64  | 42  | 34  | 36  | 45  | 37  | 40  | 25 | 7  | 0  | 0  | 0  | 0  | 0  | 487   |
| 21       | 0 | 0 | 0 | 0 | 0 | 5 | 20 | 37 | 53 | 68  | 65  | 72  | 80  | 74  | 67  | 60  | 33  | 25 | 8  | 0  | 0  | 0  | 0  | 0  | 667   |
| 22       | 0 | 0 | 0 | 0 | 0 | 6 | 19 | 36 | 53 | 55  | 74  | 59  | 65  | 55  | 47  | 51  | 30  | 13 | 6  | 0  | 0  | 0  | 0  | 0  | 569   |
| 23       | 0 | 0 | 0 | 0 | 0 | 5 | 17 | 32 | 39 | 27  | 40  | 67  | 59  | 43  | 43  | 26  | 18  | 21 | 5  | 0  | 0  | 0  | 0  | 0  | 442   |
| 24       | 0 | 0 | 0 | 0 | 0 | 6 | 18 | 11 | 47 | 50  | 71  | 61  | 63  | 44  | 46  | 41  | 24  | 13 | 3  | 0  | 0  | 0  | 0  | 0  | 498   |
| 25       | 0 | 0 | 0 | 0 | 0 | 2 | 4  | 25 | 48 | 25  | 62  | 78  | 72  | 82  | 49  | 39  | 25  | 17 | 11 | 0  | 0  | 0  | 0  | 0  | 539   |
| 26       | 0 | 0 | 0 | 0 | 0 | 1 | 4  | 7  | 20 | 23  | 20  | 69  | 53  | 56  | 44  | 43  | 21  | 14 | 6  | 1  | 0  | 0  | 0  | 0  | 382   |
| 27       | 0 | 0 | 0 | 0 | 0 | 4 | 15 | 13 | 20 | 35  | 48  | 57  | 52  | 22  | 37  | 25  | 15  | 16 | 4  | 0  | 0  | 0  | 0  | 0  | 363   |
| 28       | 0 | 0 | 0 | 0 | 0 | 2 | 19 | 31 | 51 | 66  | 26  | 20  | 43  | 83  | 73  | 61  | 5   | 5  | 3  | 0  | 0  | 0  | 0  | 0  | 271   |
| 29       | 0 | 0 | 0 | 0 | 0 | 7 | 21 | 37 | 53 | 67  | 75  | 66  | 88  | 80  | 71  | 59  | 33  | 26 | 10 | 0  | 0  | 0  | 0  | 0  | 700   |
| 30       | 0 | 0 | 0 | 0 | 0 | 5 | 20 | 37 | 52 | 66  | 76  | 83  | 84  | 80  | 71  | 59  | 44  | 28 | 9  | 0  | 0  | 0  | 0  | 0  | 714   |
| 31       | 0 | 0 | 0 | 0 | 0 | 6 | 21 | 38 | 53 | 66  | 76  | 82  | 83  | 79  | 70  | 58  | 43  | 27 | 11 | 1  | 0  | 0  | 0  | 0  | 714   |
| TOTAL/10 | 0 | 0 | 0 | 0 | 0 | 0 | 9  | 45 | 88 | 133 | 160 | 186 | 191 | 183 | 176 | 159 | 126 | 90 | 54 | 16 | 0  | 0  | 0  | 0  | 0     |

TOTAL NUMBER OF OBSERVATIONS = 8848. TOTAL = 16228.

: INDICATES CALIBRATION DURING THE HOUR



TEMPERATURE CHANGE FROM 30' TO 100' (DEG F\*10)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

HOUR

| DAY  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20 | 21 | 22 | 23 | 24 | MEAN |
|------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|------|
| 1    | 21 | 11 | 10 | 8  | 13 | 0  | 0  | -9  | -12 | -13 | -18 | -14 | -14 | -14 | -15 | -12 | -11 | -11 | -7  | -4 | 0  | 0  | 7  | 4  | -3   |
| 2    | 0  | 4  | 7  | 4  | 9  | 2  | 0  | -8  | -14 | -16 | -18 | -18 | -20 | -15 | -19 | -16 | -13 | -12 | -5  | 11 | 28 | 12 | 14 | 13 | -2   |
| 3    | 11 | 18 | 13 | 21 | 14 | 17 | 9  | -5  | -10 | -12 | -15 | -16 | -12 | -15 | -21 | -12 | -14 | -9  | -8  | -3 | 1  | -4 | -2 | -4 | -3   |
| 4    | -3 | 0  | 0  | 4  | 7  | 7  | 2  | -11 | -15 | -14 | -13 | -15 | -14 | -12 | -12 | -14 | -15 | -9  | -7  | -6 | -4 | -2 | 2  | 0  | -6   |
| 5    | -3 | 0  | 1  | 3  | 5  | 11 | -3 | -8  | -14 | -17 | -18 | -22 | -26 | -24 | -22 | -21 | -16 | -10 | -8  | -6 | -6 | -1 | -5 | -5 | -10  |
| 6    | -3 | 4  | -1 | -3 | -2 | -4 | -8 | -11 | -14 | -19 | -24 | -25 | -24 | -23 | -19 | -20 | -15 | -11 | -8  | 0  | 6  | 16 | 14 | 9  | -8   |
| 7    | 9  | 5  | 5  | 7  | 8  | 10 | -6 | -12 | -15 | -19 | -17 | -20 | -21 | -23 | -22 | -21 | -15 | -11 | -6  | 0  | 10 | 7  | 40 | 28 | -3   |
| 8    | 18 | 19 | 16 | 19 | 21 | 9  | 16 | -8  | -14 | -16 | -20 | -22 | -23 | -18 | -19 | -19 | -16 | -13 | -8  | 5  | 33 | 38 | 44 | 21 | 2    |
| 9    | 21 | 17 | 18 | 24 | 31 | 16 | -1 | -12 | -15 | -16 | -18 | -17 | -20 | -21 | -19 | -20 | -15 | -15 | -10 | -1 | 14 | 10 | 0  | -4 | -3   |
| 10   | -6 | -5 | -3 | -2 | -4 | -4 | -8 | -9  | -8  | -9  | -9  | -13 | -16 | -17 | -20 | -19 | -13 | -11 | -7  | 0  | 13 | 31 | 41 | 30 | -4   |
| 11   | 21 | 22 | 14 | 15 | 8  | 2  | 1  | -7  | -15 | -17 | -18 | -20 | -19 | -19 | -16 | -15 | -13 | -9  | -5  | 7  | 30 | 20 | 48 | 17 | 0    |
| 12   | 23 | 18 | 29 | 9  | 4  | 5  | 14 | -5  | -14 | -16 | -18 | -21 | -17 | -16 | -15 | -13 | -12 | -12 | -8  | -4 | -5 | -4 | -3 | 0  | -4   |
| 13   | 6  | 3  | 1  | 7  | 17 | 8  | -3 | -9  | -12 | -12 | -15 | -12 | -12 | -12 | -14 | -15 | -11 | -18 | -5  | -4 | 0  | 0  | 2  | 0  | -5   |
| 14   | 0  | 5  | 5  | -1 | -5 | -6 | -6 | -7  | -9  | -9  | -8  | -10 | -10 | -11 | -8  | -8  | -8  | -6  | -5  | -5 | -4 | -4 | -3 | -2 | -6   |
| 15   | -2 | -3 | -3 | -5 | -4 | -2 | -4 | -10 | -10 | -9  | -11 | -11 | -11 | -11 | -13 | -1  | -7  | -6  | -5  | -3 | -3 | -1 | -2 | 0  | -7   |
| 16   | 4  | -1 | 2  | 11 | 8  | 9  | -1 | -8  | -11 | -13 | -17 | -23 | -28 | -29 | -26 | -19 | -9  | -7  | -4  | -4 | -4 | -5 | -6 | -5 | -8   |
| 17   | -5 | -6 | -6 | -6 | -6 | -6 | -7 | -9  | -15 | -18 | -15 | -17 | -21 | -23 | -19 | -14 | -12 | -11 | -8  | -7 | -5 | -5 | -5 | -4 | -11  |
| 18   | -3 | -4 | 0  | 1  | 0  | 2  | -4 | -10 | -14 | -17 | -18 | -20 | -19 | -23 | -19 | -17 | -15 | -13 | -8  | -5 | -2 | -5 | -5 | -4 | -8   |
| 19   | 13 | 11 | 13 | 14 | 21 | 11 | -2 | -8  | -12 | -14 | -14 | -20 | -19 | -19 | -17 | -15 | -12 | -13 | -8  | -5 | 1  | 10 | 18 | 1  | 1    |
| 20   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 21   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 22   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 23   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 24   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 25   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 26   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 27   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 28   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 29   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 30   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| 31   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |
| MEAN |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |      |

TOTAL NUMBER OF OBSERVATIONS = 5301. MEAN = -5.

: INDICATES CALIBRATION DURING THE HOUR

TEMPERATURE CHANGE FROM 30' TO 200' (DEG F\*10)  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | 34   | 21  | 15  | 7   | 13  | 0   | 0   | -14 | -15 | -22 | -13 | -19 | -22 | -21 | -18 | -20 | -18 | -21 | -17 | -9  | 0   | -3  | 5   | 4   |
| 2    | -3   | 0   | 3   | 0   | 20  | 4   | 12  | -15 | -23 | -25 | -24 | -25 | -17 | -22 | -20 | -22 | -19 | -14 | -12 | 7   | 31  | 10  | 16  | 9   |
| 3    | 7    | 22  | 24  | 33  | 25  | 18  | 5   | -12 | -19 | -20 | -16 | -18 | -17 | -29 | -33 | -24 | -22 | -23 | -21 | -12 | 1   | -11 | -12 | -15 |
| 4    | -16  | -7  | -6  | 0   | 5   | 6   | 2   | -24 | -23 | -26 | -19 | -16 | -25 | -21 | -20 | -14 | -11 | -13 | -17 | -16 | -14 | -11 | 0   | -4  |
| 5    | -9   | -11 | -1  | -1  | -1  | 4   | -11 | -18 | -22 | -21 | -23 | -22 | -21 | -24 | -21 | -19 | -16 | -20 | -18 | -15 | -17 | -9  | -13 | -17 |
| 6    | -9   | 3   | -8  | -13 | -12 | -15 | -19 | -21 | -22 | -18 | -21 | -21 | -24 | -22 | -22 | -18 | -15 | -18 | -17 | 3   | 4   | 17  | 14  | 13  |
| 7    | 12   | 5   | 2   | 3   | 4   | 7   | -15 | -24 | -26 | -31 | -31 | -31 | -31 | -27 | -32 | -22 | -16 | -12 | -13 | 2   | 10  | 7   | 44  | 31  |
| 8    | 21   | 20  | 22  | 41  | 28  | 5   | 18  | -17 | -26 | -26 | -26 | -36 | -37 | -28 | -28 | -18 | -15 | -15 | -14 | 5   | 42  | 47  | 57  | 42  |
| 9    | 36   | 33  | 26  | 33  | 39  | 23  | -2  | -24 | -27 | -27 | -30 | -30 | -32 | -32 | -26 | -28 | -25 | -24 | -17 | 5   | 22  | 14  | -1  | -10 |
| 10   | -15  | -16 | -13 | -11 | -14 | -15 | -21 | -17 | -21 | -21 | -21 | -24 | -22 | -13 | -18 | -11 | -7  | -17 | -18 | -8  | 5   | 22  | 44  | 40  |
| 11   | 39   | 34  | 21  | 16  | 0   | 0   | 0   | -17 | -30 | -28 | -30 | -32 | -25 | -25 | -23 | -19 | -15 | -18 | -13 | 3   | 25  | 17  | 50  | 26  |
| 12   | 37   | 30  | 45  | 17  | 0   | 10  | 31  | -10 | -24 | -23 | -28 | -30 | -29 | -28 | -28 | -24 | -23 | -17 | -19 | -15 | -13 | -12 | -11 | -2  |
| 13   | 2    | 0   | 0   | 4   | 21  | 5   | -12 | -22 | -22 | -24 | -28 | -23 | -22 | -21 | -26 | -25 | -20 | -22 | -17 | -15 | -7  | -7  | -5  | -2  |
| 14   | -8   | 1   | 0   | -7  | -16 | -17 | -15 | -21 | -24 | -23 | -23 | -24 | -22 | -16 | -19 | -18 | -13 | -16 | -21 | -16 | -12 | -19 | -15 | -21 |
| 15   | -15  | -16 | -14 | -16 | -15 | -11 | -13 | -22 | -20 | -10 | -8  | -22 | -22 | -21 | -27 | -15 | -17 | -17 | -17 | -12 | -13 | -10 | -9  | -7  |
| 16   | 0    | -4  | -1  | 11  | 8   | 4   | -8  | -19 | -22 | -24 | -28 | -34 | -31 | -29 | -28 | -27 | -16 | -14 | -13 | -11 | -12 | -15 | -18 | -20 |
| 17   | -19  | -20 | -21 | -21 | -18 | -20 | -22 | -22 | -17 | -23 | -16 | -15 | -22 | -20 | -16 | -14 | -20 | -19 | -19 | -19 | -17 | -18 | -17 | -17 |
| 18   | -15  | -17 | -10 | -8  | -9  | 0   | -15 | -19 | -21 | -20 | -21 | -18 | -19 | -17 | -17 | -20 | -11 | -12 | -18 | -19 | -15 | -7  | 1   | 8   |
| 19   | 11   | 8   | 11  | 4   | 19  | 17  | -7  | -24 | -27 | -27 | -27 | -27 | -19 | -17 | -17 | -20 | -11 | -12 | -18 | -19 | -15 | -7  | -1  | -6  |
| 20   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 21   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 22   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 23   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 24   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 25   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 26   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 27   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 28   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 29   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 30   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 31   |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| MEAN | 4    | 4   | 4   | 4   | 4   | 4   | 1   | -5  | -20 | -24 | -24 | -26 | -26 | -24 | -24 | -21 | -18 | -18 | -18 | -10 | 0   | -0  | 6   | 2   |

TOTAL NUMBER OF OBSERVATIONS = 5301. MEAN = -11.

: INDICATES CALIBRATION DURING THE HOUR



DIURNAL VARIATION OF BAROMETRIC PRESSURE  
 TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

HOUR

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 MEAN

DAY

|      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1    | 787 | 787 | 788 | 787 | 787 | 787 | 787 | 788 | 788 | 789 | 789 | 790 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 790 | 790 | 790 | 790 | 788 |
| 2    | 790 | 790 | 790 | 790 | 790 | 790 | 791 | 791 | 791 | 791 | 791 | 790 | 789 | 789 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 789 | 789 | 789 |
| 3    | 788 | 788 | 787 | 787 | 787 | 787 | 787 | 786 | 786 | 786 | 786 | 786 | 786 | 785 | 784 | 784 | 783 | 782 | 782 | 782 | 782 | 781 | 781 | 781 |
| 4    | 781 | 781 | 781 | 781 | 781 | 781 | 783 | 783 | 783 | 783 | 782 | 782 | 782 | 781 | 781 | 781 | 781 | 781 | 782 | 783 | 783 | 783 | 783 | 783 |
| 5    | 782 | 782 | 782 | 782 | 782 | 782 | 781 | 781 | 780 | 780 | 779 | 779 | 778 | 777 | 777 | 777 | 776 | 776 | 777 | 777 | 777 | 777 | 777 | 778 |
| 6    | 779 | 779 | 779 | 779 | 779 | 780 | 780 | 781 | 781 | 782 | 782 | 782 | 782 | 782 | 782 | 782 | 782 | 782 | 783 | 784 | 784 | 784 | 785 | 781 |
| 7    | 785 | 785 | 786 | 786 | 787 | 787 | 788 | 788 | 788 | 788 | 787 | 787 | 786 | 786 | 785 | 785 | 785 | 785 | 786 | 787 | 787 | 787 | 788 | 786 |
| 8    | 788 | 788 | 788 | 789 | 789 | 789 | 790 | 790 | 790 | 790 | 790 | 790 | 789 | 788 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 788 |
| 9    | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 787 | 787 | 786 | 786 | 785 | 784 | 783 | 782 | 782 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 |
| 10   | 782 | 782 | 783 | 783 | 784 | 784 | 785 | 785 | 785 | 785 | 786 | 786 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 786 | 786 | 786 |
| 11   | 786 | 786 | 786 | 786 | 786 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 786 | 785 | 785 | 785 | 785 | 786 | 786 | 787 | 787 | 787 | 786 |
| 12   | 787 | 787 | 788 | 788 | 788 | 789 | 789 | 789 | 790 | 790 | 790 | 790 | 789 | 788 | 788 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 788 |
| 13   | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 787 | 786 | 785 | 785 | 784 | 783 | 782 | 782 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 |
| 14   | 784 | 783 | 783 | 783 | 783 | 784 | 784 | 784 | 784 | 784 | 783 | 783 | 782 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 781 | 782 | 782 | 783 |
| 15   | 783 | 783 | 783 | 784 | 784 | 784 | 785 | 785 | 785 | 785 | 785 | 785 | 784 | 783 | 783 | 783 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 784 |
| 16   | 783 | 783 | 783 | 783 | 783 | 783 | 783 | 783 | 782 | 782 | 781 | 780 | 779 | 779 | 779 | 779 | 778 | 778 | 779 | 779 | 780 | 782 | 782 | 783 |
| 17   | 783 | 783 | 784 | 784 | 784 | 784 | 784 | 784 | 783 | 783 | 783 | 782 | 782 | 781 | 781 | 781 | 781 | 781 | 782 | 782 | 782 | 783 | 783 | 782 |
| 18   | 783 | 783 | 783 | 783 | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 785 | 785 | 785 | 785 | 785 | 786 | 786 | 787 | 788 | 788 | 789 | 788 | 785 |
| 19   | 789 | 789 | 789 | 789 | 789 | 789 | 790 | 790 | 790 | 789 | 789 | 789 | 788 | 788 | 788 | 788 | 788 | 788 | 788 | 789 | 790 | 790 | 790 | 789 |
| 20   | 789 | 789 | 789 | 788 | 788 | 788 | 789 | 788 | 788 | 788 | 788 | 788 | 788 | 787 | 787 | 787 | 787 | 787 | 787 | 788 | 789 | 789 | 789 | 788 |
| 21   | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 789 | 788 | 788 | 788 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 788 | 788 | 787 | 788 |
| 22   | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 786 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 |
| 23   | 785 | 785 | 784 | 784 | 784 | 784 | 785 | 785 | 785 | 785 | 786 | 785 | 785 | 784 | 783 | 783 | 782 | 782 | 782 | 782 | 783 | 783 | 784 | 784 |
| 24   | 784 | 784 | 784 | 784 | 784 | 784 | 784 | 785 | 785 | 784 | 784 | 784 | 783 | 783 | 784 | 784 | 784 | 784 | 785 | 786 | 786 | 786 | 786 | 784 |
| 25   | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 786 | 786 | 787 | 785 |
| 26   | 786 | 786 | 786 | 786 | 786 | 786 | 786 | 787 | 787 | 786 | 786 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 786 | 785 | 786 |
| 27   | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 786 | 786 | 786 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 787 | 787 | 785 |
| 28   | 787 | 786 | 786 | 786 | 787 | 787 | 787 | 787 | 787 | 787 | 786 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 786 | 786 | 787 | 787 | 786 |
| 29   | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 787 | 786 | 786 | 785 | 785 | 785 | 785 | 785 | 785 | 786 | 786 | 787 | 787 | 787 | 786 |
| 30   | 790 | 790 | 790 | 791 | 791 | 792 | 793 | 793 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 793 | 793 | 793 | 794 | 794 | 794 | 795 | 795 | 793 |
| 31   | 795 | 795 | 795 | 795 | 796 | 796 | 797 | 797 | 797 | 797 | 797 | 797 | 797 | 796 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 | 795 |
| MEAN | 786 | 786 | 786 | 786 | 786 | 786 | 787 | 787 | 787 | 786 | 786 | 786 | 785 | 785 | 785 | 785 | 784 | 784 | 785 | 785 | 786 | 786 | 786 | 786 |

TOTAL NUMBER OF OBSERVATIONS = 8842. MEAN = 786.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | MEAN |
| 1    | 196  | 197 | 205 | 184 | 168 | 173 | 191 | 203 | 211 | 206 | 215 | 203 | 204 | 209 | 218 | 207 | 217 | 213 | 244 | 109 | 60  | 101 | 154 | 224 | 188  |
| 2    | 225  | 298 | 249 | 119 | 76  | 128 | 103 | 260 | 213 | 216 | 215 | 223 |     | 221 | 225 | 212 | 219 | 223 | 231 | 226 | 216 | 202 | 204 | 189 | 204  |
| 3    | 170  | 171 | 167 | 167 | 158 | 152 | 166 | 160 | 202 | 217 | 222 | 213 | 209 | 177 | 180 | 171 | 188 | 173 | 180 | 158 | 159 | 198 | 179 | 198 | 181  |
| 4    | 198  | 188 | 230 | 240 | 254 | 250 | 316 | 315 | 302 | 313 | 311 | 300 | 303 | 284 | 261 | 232 | 224 | 236 | 290 | 324 | 319 | 312 | 310 | 251 | 273  |
| 5    | 216  | 262 | 265 | 270 | 254 | 226 | 169 | 127 | 202 | 212 | 206 | 207 | 216 | 208 | 209 | 206 | 205 | 198 | 203 | 208 | 214 | 195 | 216 | 213 | 213  |
| 6    | 203  | 176 | 177 | 171 | 173 | 179 | 189 | 191 | 194 | 208 | 206 | 209 | 206 | 196 | 203 | 211 | 211 | 209 | 204 | 204 | 177 | 167 | 176 | 166 | 192  |
| 7    | 160  | 167 | 163 | 166 | 163 | 155 | 152 | 173 | 186 | 182 | 166 | 177 | 188 | 194 | 182 | 200 | 205 | 220 | 243 | 246 | 208 | 125 | 180 | 275 | 187  |
| 8    | 232  | 218 | 91  | 146 | 186 | 175 | 174 | 142 | 182 | 193 | 195 | 178 | 178 | 182 | 188 | 206 | 211 | 214 | 213 | 211 | 223 | 219 | 206 | 188 | 190  |
| 9    | 178  | 174 | 171 | 162 | 139 | 153 | 162 | 150 | 180 | 185 | 180 | 175 | 178 | 186 | 200 | 192 | 177 | 188 | 193 | 205 | 204 | 201 | 188 | 213 | 181  |
| 10   | 213  | 226 | 239 | 234 | 226 | 224 | 212 | 225 | 217 | 199 | 222 | 232 | 228 | 178 | 222 | 222 | 205 | 221 | 222 | 215 | 190 | 213 | 221 | 213 | 217  |
| 11   | 195  | 182 | 162 | 176 | 156 | 160 | 162 | 121 | 166 | 190 | 196 | 192 | 204 | 205 | 210 | 215 | 217 | 216 | 213 | 191 | 185 | 201 | 193 | 157 | 186  |
| 12   | 129  | 156 | 153 | 171 | 157 | 168 | 167 | 137 | 186 | 214 | 189 | 188 | 177 | 174 | 150 | 148 | 155 | 191 | 180 | 146 | 150 | 128 | 150 | 146 | 163  |
| 13   | 140  | 156 | 154 | 183 | 148 | 146 | 114 | 68  | 220 | 172 | 99  | 166 | 209 | 135 | 95  | 300 | 280 | 199 | 209 | 139 | 153 | 178 | 163 | 153 | 165  |
| 14   | 153  | 209 | 239 | 234 | 197 | 152 | 130 | 133 | 204 | 187 | 185 | 183 | 210 | 228 | 244 | 224 | 227 | 223 | 215 | 221 | 228 | 230 | 230 | 225 | 205  |
| 15   | 238  | 243 | 245 | 297 | 247 | 232 | 230 | 244 | 249 | 271 | 283 | 261 | 245 | 234 | 194 | 247 | 197 | 201 | 198 | 154 | 197 | 165 | 166 | 165 | 225  |
| 16   | 158  | 137 | 170 | 155 | 143 | 145 | 167 | 186 | 189 | 188 | 183 | 188 | 190 | 191 | 196 | 189 | 197 | 200 | 201 | 209 | 234 | 291 | 299 | 274 | 195  |
| 17   | 293  | 304 | 92  | 201 | 239 | 140 | 152 | 238 | 201 | 198 | 198 | 198 | 201 | 208 | 208 | 213 | 208 | 232 | 280 | 333 | 301 | 279 | 296 | 321 | 231  |
| 18   | 324  | 325 | 330 | 246 | 87  | 117 | 77  | 202 | 198 | 202 | 204 | 213 | 218 | 216 | 220 | 216 | 239 | 236 | 282 | 319 | 320 | 160 | 128 | 177 | 219  |
| 19   | 209  | 261 | 198 | 141 | 195 | 182 | 211 | 174 | 222 | 213 | 200 | 217 | 244 | 237 | 305 | 246 | 238 | 316 | 284 | 72  | 205 | 261 | 47  | 88  | 207  |
| 20   | 118  | 189 | 250 | 122 | 101 | 110 | 232 | 169 | 248 | 320 | 320 | 286 | 307 | 318 | 223 | 317 | 316 | 202 | 176 | 327 | 327 | 311 | 310 | 298 | 245  |
| 21   | 309  | 265 | 241 | 227 | 206 | 169 | 215 | 254 | 265 | 198 | 316 | 348 | 305 | 302 | 292 | 316 | 315 | 312 | 282 | 273 | 240 | 228 | 193 | 195 | 261  |
| 22   | 183  | 132 | 55  | 129 | 177 | 203 | 123 | 174 | 218 | 218 | 215 | 247 | 246 | 220 | 218 | 204 | 214 | 219 | 214 | 207 | 214 | 198 | 197 | 188 | 192  |
| 23   | 172  | 127 | 139 | 162 | 151 | 161 | 160 | 157 | 185 | 192 | 199 | 192 | 199 | 174 | 199 | 201 | 229 |     |     |     |     |     |     |     | 176  |
| 24   |      |     |     |     |     |     |     | 200 | 202 | 205 | 201 | 196 | 198 | 198 | 197 | 202 | 203 | 225 | 230 | 218 | 175 | 174 | 172 | 180 | 199  |
| 25   | 157  | 158 | 154 | 184 | 200 | 159 | 147 | 175 | 191 | 202 | 213 | 203 | 213 | 211 | 217 | 220 | 216 | 225 | 225 | 257 | 315 | 344 | 282 | 284 | 215  |
| 26   | 170  | 139 | 197 | 168 | 184 | 178 | 148 | 239 | 188 | 139 | 219 | 223 | 217 | 219 | 216 | 234 | 308 | 246 | 282 | 322 | 131 | 109 | 148 | 180 | 200  |
| 27   | 277  | 191 | 162 | 167 | 244 | 242 | 145 | 215 | 238 | 214 | 235 | 199 | 263 | 311 | 309 | 72  | 206 | 68  | 145 | 310 | 237 | 288 | 315 | 210 | 219  |
| 28   | 130  | 163 | 147 | 209 | 192 | 128 | 151 | 155 | 150 | 208 | 288 | 143 | 323 |     |     |     |     | 319 | 105 | 116 | 133 | 118 | 163 | 164 | 172  |
| 29   | 234  | 224 | 176 | 116 | 115 | 110 | 101 | 116 | 233 | 218 | 218 | 199 | 205 | 213 | 237 | 232 | 235 | 285 | 314 | 314 | 251 | 47  | 139 | 135 | 195  |
| 30   | 206  | 95  | 225 | 259 | 256 | 228 | 130 | 110 | 94  | 334 | 320 | 309 | 316 | 310 | 322 | 325 | 254 | 153 | 66  | 209 | 48  | 100 | 125 | 181 | 207  |
| 31   | 178  | 221 | 103 | 283 | 273 | 180 | 188 | 110 | 186 | 252 | 333 | 221 | 206 | 257 | 169 | 248 | 124 | 325 | 314 | 323 | 172 | 204 | 213 | 294 | 224  |
| MEAN | 199  | 198 | 185 | 190 | 182 | 171 | 166 | 178 | 204 | 215 | 224 | 216 | 225 | 220 | 217 | 221 | 221 | 223 | 221 | 226 | 206 | 198 | 199 | 205 |      |

TOTAL NUMBER OF OBSERVATIONS = 8676. MEAN = 205.

: INDICATES CALIBRATION DURING THE HOUR



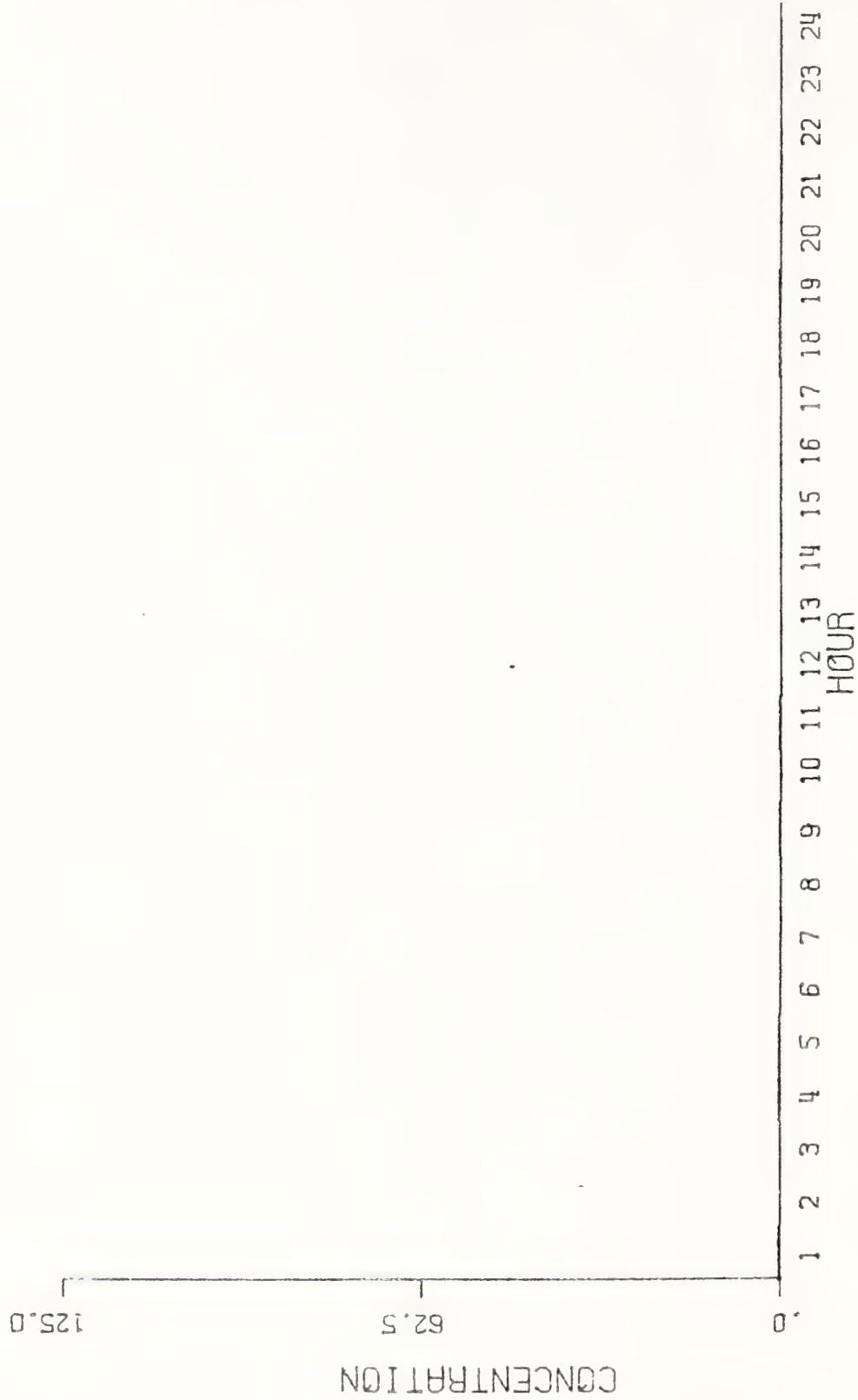
DIURNAL VARIATION OF VERTICAL BI-VANE WIND DIRECTION AT 200 FEET  
TRAILER NO. - 23 PERIOD( 5/ 1/77 TO 5/31/77)

| DAY  | HOUR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | 1    | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 1    | -7   | -12 | -15 | -7  | -17 | -12 | -13 | -17 | -18 | -18 | -19 | -15 | -15 | -17 | -14 | -17 | -18 | -18 | -16 | -10 | -5  | -11 | 0   | -2  |
| 2    | 3    | 6   | 3   | 7   | 1   | 6   | 2   | 0   | -14 | -13 | -18 | -13 | -16 | -13 | -14 | -17 | -13 | -7  | -1  | -11 | 7   | 28  | 21  | -14 |
| 3    | 21   | 23  | 23  | 25  | 38  | 38  | 43  | 34  | 1   | -7  | -8  | -7  | -6  | -4  | -2  | -2  | -1  | 0   | 5   | 5   | -9  | -11 | -11 | -3  |
| 4    | -12  | -13 | -12 | -14 | -15 | -14 | -18 | -15 | -13 | -13 | -15 | -15 | -13 | -14 | -15 | -17 | -19 | -20 | -19 | 4   | 32  | 43  | 8   | -9  |
| 5    | -8   | -12 | -11 | -11 | -4  | -9  | 0   | -12 | -18 | -19 | -20 | -20 | -21 | -20 | -20 | -19 | -20 | -18 | -17 | 0   | -19 | -20 | -18 | -13 |
| 6    | -13  | -20 | -21 | -22 | -21 | -21 | -20 | -20 | -18 | -18 | -16 | -20 | -20 | -19 | -18 | -19 | -19 | -21 | -20 | -20 | 0   | -5  | 26  | -21 |
| 7    | -20  | 17  | 35  | 16  | 42  | -7  | -8  | -8  | -16 | -17 | -14 | -13 | -18 | -17 | -16 | -17 | -20 | -19 | -17 | 20  | -2  | -10 | -12 | -14 |
| 8    | -7   | -9  | -18 | -18 | -14 | -4  | -8  | 8   | -14 | -21 | -17 | -16 | -20 | -20 | -18 | -17 | -18 | -19 | -19 | -3  | 43  | 31  | 39  | 2   |
| 9    | 2    | 0   | -6  | -5  | -3  | -12 | -10 | -13 | -17 | -16 | -13 | -15 | -16 | -15 | -14 | -12 | -16 | -16 | -15 | -12 | -16 | -18 | -19 | -19 |
| 10   | -16  | -15 | -10 | -7  | -3  | -9  | -11 | -12 | -15 | -17 | -14 | -13 | -14 | -19 | -11 | -16 | -17 | -18 | -19 | -12 | 0   | -19 | -8  | -8  |
| 11   | -8   | 0   | 0   | -4  | -6  | -11 | -14 | -13 | -2  | -7  | -16 | -18 | -15 | -16 | -12 | -15 | -14 | -15 | -14 | -3  | -7  | -19 | -16 | 0   |
| 12   | -9   | -16 | -18 | -15 | -3  | -11 | -10 | 8   | -2  | -5  | -11 | -12 | -7  | -3  | -8  | -7  | -9  | -2  | -3  | -7  | -10 | -11 | -15 | -7  |
| 13   | -16  | -21 | -14 | -12 | -17 | -9  | -11 | -7  | 2   | 6   | 1   | 5   | 6   | -6  | -8  | -9  | -11 | -10 | -11 | -7  | -11 | -9  | -9  | -10 |
| 14   | -8   | -10 | -7  | -9  | -19 | -28 | -22 | -23 | -21 | -17 | -12 | -11 | -10 | -9  | -8  | -10 | -12 | -13 | -12 | -14 | -16 | -17 | -17 | -17 |
| 15   | -15  | -13 | -12 | -7  | -11 | -14 | -14 | -9  | -11 | -13 | -16 | -14 | -13 | -15 | -11 | -17 | -15 | -11 | -16 | -13 | -10 | -15 | -17 | -16 |
| 16   | -16  | -11 | -15 | -17 | -21 | -17 | -18 | -18 | -18 | -16 | -17 | -18 | -18 | -16 | -15 | -18 | -19 | -18 | -19 | -19 | -19 | -17 | -18 | -12 |
| 17   | -16  | -13 | -8  | -8  | 0   | -9  | -1  | -9  | -18 | -19 | -20 | -13 | -11 | -13 | -15 | -13 | -11 | -10 | -8  | -8  | -11 | -12 | -14 | -11 |
| 18   | -10  | -7  | -7  | -2  | -2  | -5  | -5  | -12 | -11 | -13 | -12 | -11 | -9  | -10 | -11 | -11 | -8  | -8  | -5  | 7   | 6   | 8   | 7   | 11  |
| 19   | 7    | 1   | 0   | -1  | 0   | -4  | -3  | -1  | -8  | -8  | -9  | -9  | -3  | -7  | -9  | -8  | -8  | -6  | -6  | -6  | -2  | -8  | -7  | -2  |
| 20   | -3   | 0   | 3   | 0   | -2  | 0   | 1   | 6   | -2  | -2  | -6  | -5  | -3  | -5  | -1  | -6  | -4  | -7  | -14 | -12 | -16 | -16 | -16 | -16 |
| 21   | -8   | -8  | -10 | -7  | -13 | -6  | -1  | -3  | -4  | -7  | -3  | -5  | -7  | -5  | -7  | -3  | -3  | -5  | -6  | -9  | -4  | -1  | 6   | 7   |
| 22   | 8    | 4   | 2   | -1  | -5  | -3  | -3  | -6  | -6  | -15 | -12 | -9  | -7  | -5  | -10 | -11 | -12 | -16 | -15 | 0   | 23  | 35  | -16 | -18 |
| 23   | -18  | -14 | -4  | -5  | -9  | -5  | -2  | -3  | -6  | -15 | -14 | -15 | -16 | -19 | -13 | -5  | -8  |     |     |     |     |     |     |     |
| 24   | -4   | -5  | -5  | -8  | -13 | -10 | -9  | -2  | 0   | 0   | -7  | -6  | -7  | -6  | -6  | -6  | -6  | 4   | 11  | 11  | -1  | -2  | -4  | -7  |
| 25   | 0    | -3  | -6  | -9  | -8  | -8  | -7  | -1  | -9  | -4  | -5  | -5  | -5  | -5  | -7  | -8  | -7  | -7  | -5  | -3  | -1  | 0   | -1  | -1  |
| 26   | -4   | 1   | -2  | -4  | 0   | -4  | -5  | -9  | -7  | -9  | -9  | -6  | -6  | -8  | -8  | -7  | 0   | -4  | -5  | -5  | -2  | -5  | -6  | -3  |
| 27   | -7   | -10 | -8  | -1  | -8  | -9  | -10 | -10 | -10 | -12 | -11 | -7  | -8  | -8  | -7  | -8  | -5  | -4  | -2  | -6  | -2  | -6  | -2  | -2  |
| 28   | 0    | -1  | -3  | -12 | -11 | -6  | -7  | -4  | 1   | -14 | -13 | -14 | -13 | -15 | -14 | -14 | -14 | -14 | -13 | -16 | -13 | -13 | -12 | -10 |
| 29   | -9   | -9  | -1  | -12 | -3  | -2  | 12  | -3  | -9  | -5  | -7  | -9  | -10 | -13 | -13 | -15 | -13 | -11 | -14 | -12 | -6  | -4  | -3  | 0   |
| 30   | 4    | 9   | 18  | 7   | -3  | 9   | 2   | -5  | -10 | -10 | -8  | -3  | -7  | -1  | 0   | -4  | -1  | 0   | -1  | 10  | 12  | 32  | 7   | 9   |
| 31   | -7   | -6  | -5  | -6  | -6  | -7  | -6  | -7  | -11 | -13 | -13 | -12 | -12 | -13 | -12 | -13 | -13 | -12 | -11 | -6  | -3  | -4  | -5  | -6  |
| MEAN |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

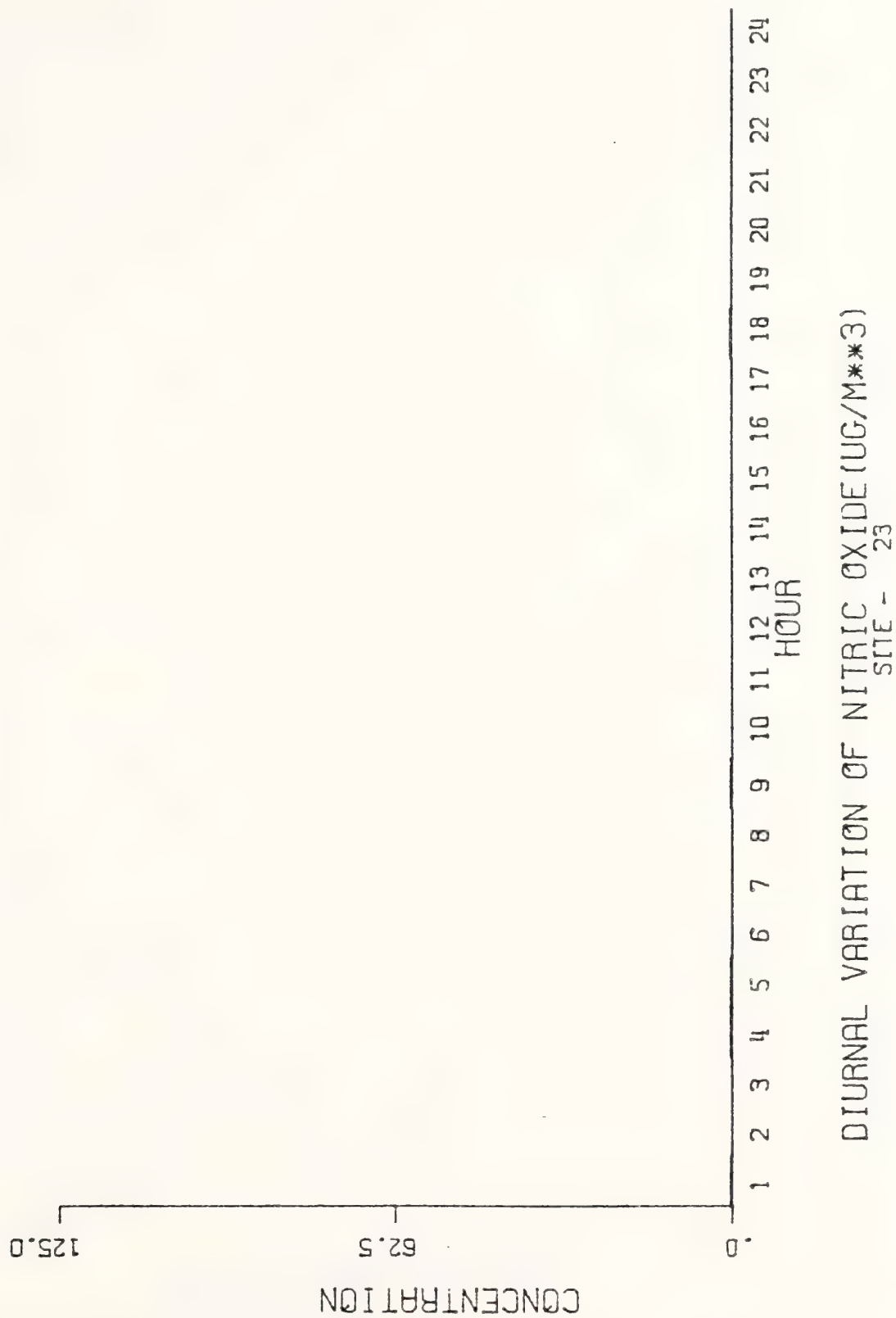
TOTAL NUMBER OF OBSERVATIONS = 8671. MEAN = -9.

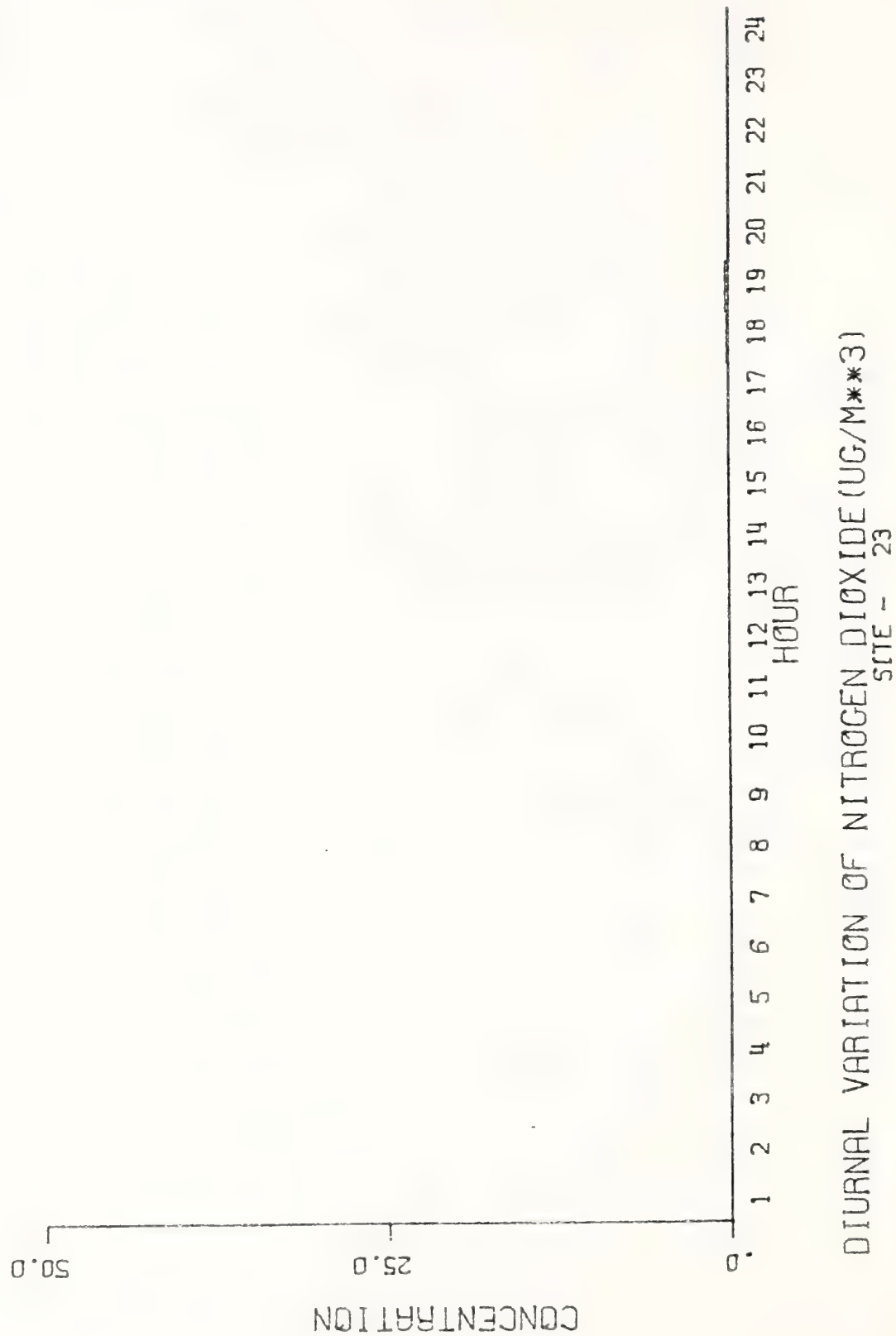
: INDICATES CALIBRATION DURING THE HOUR

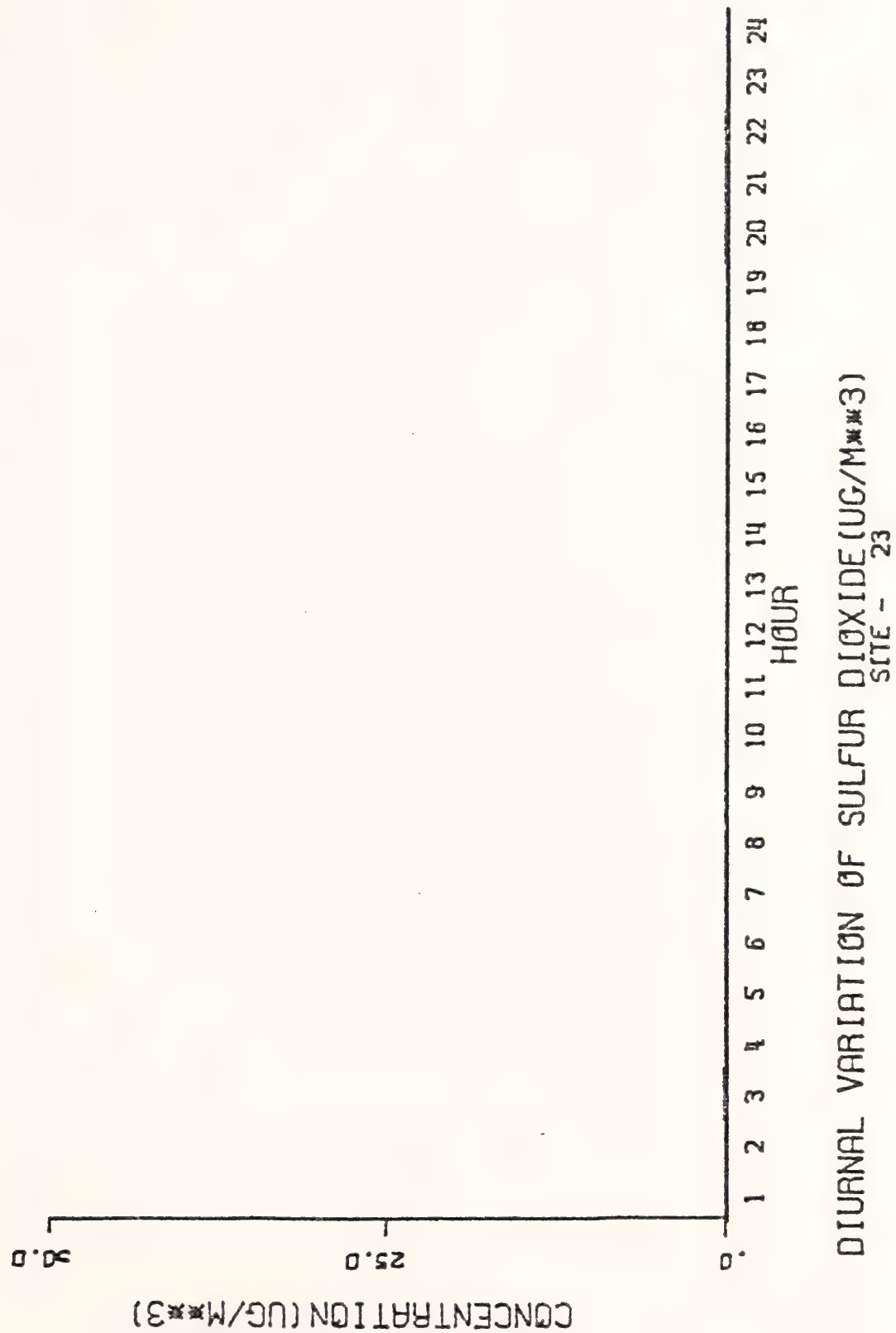


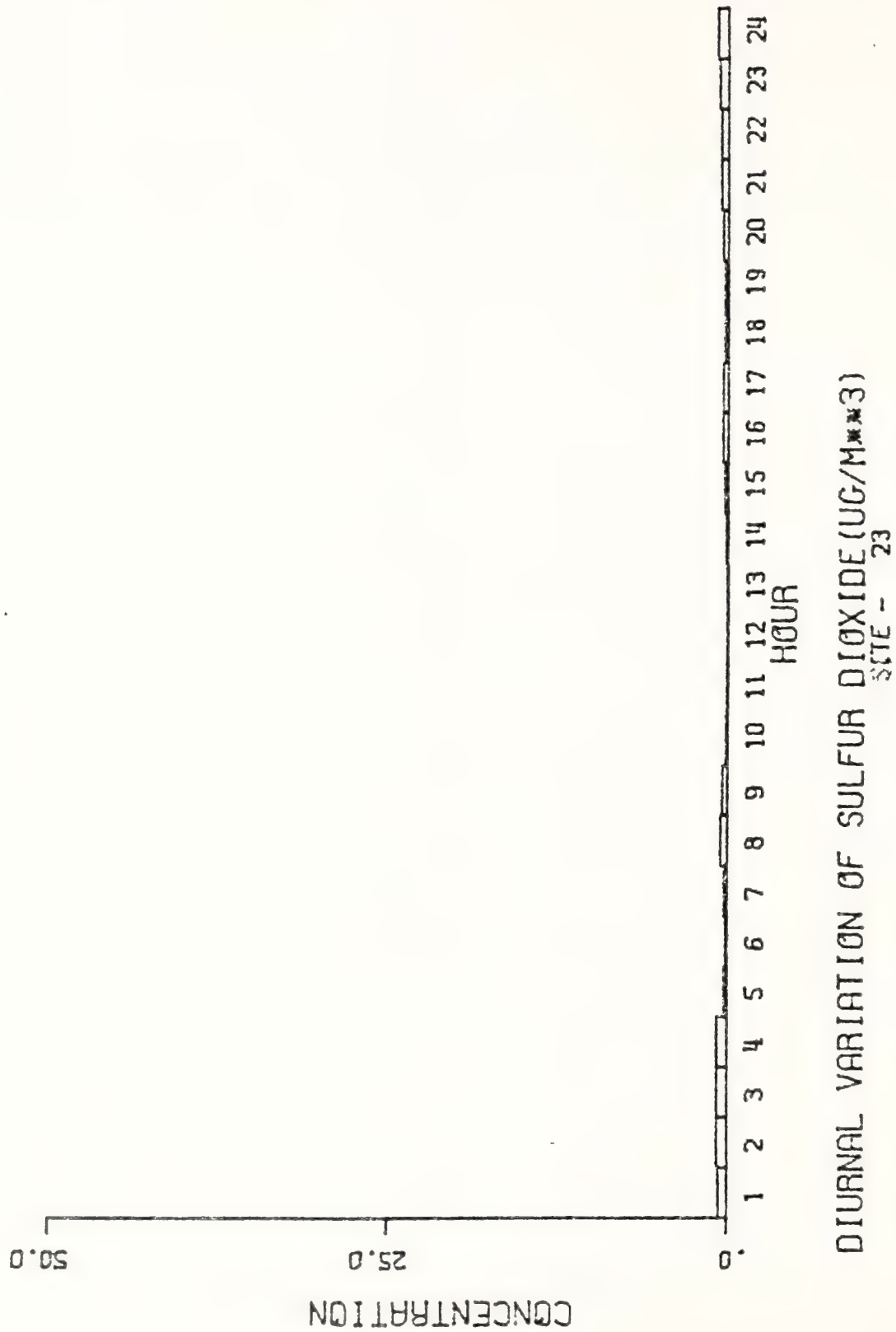


DIURNAL VARIATION OF NITROGEN OXIDES (UG/M\*\*3)  
SITE - 23

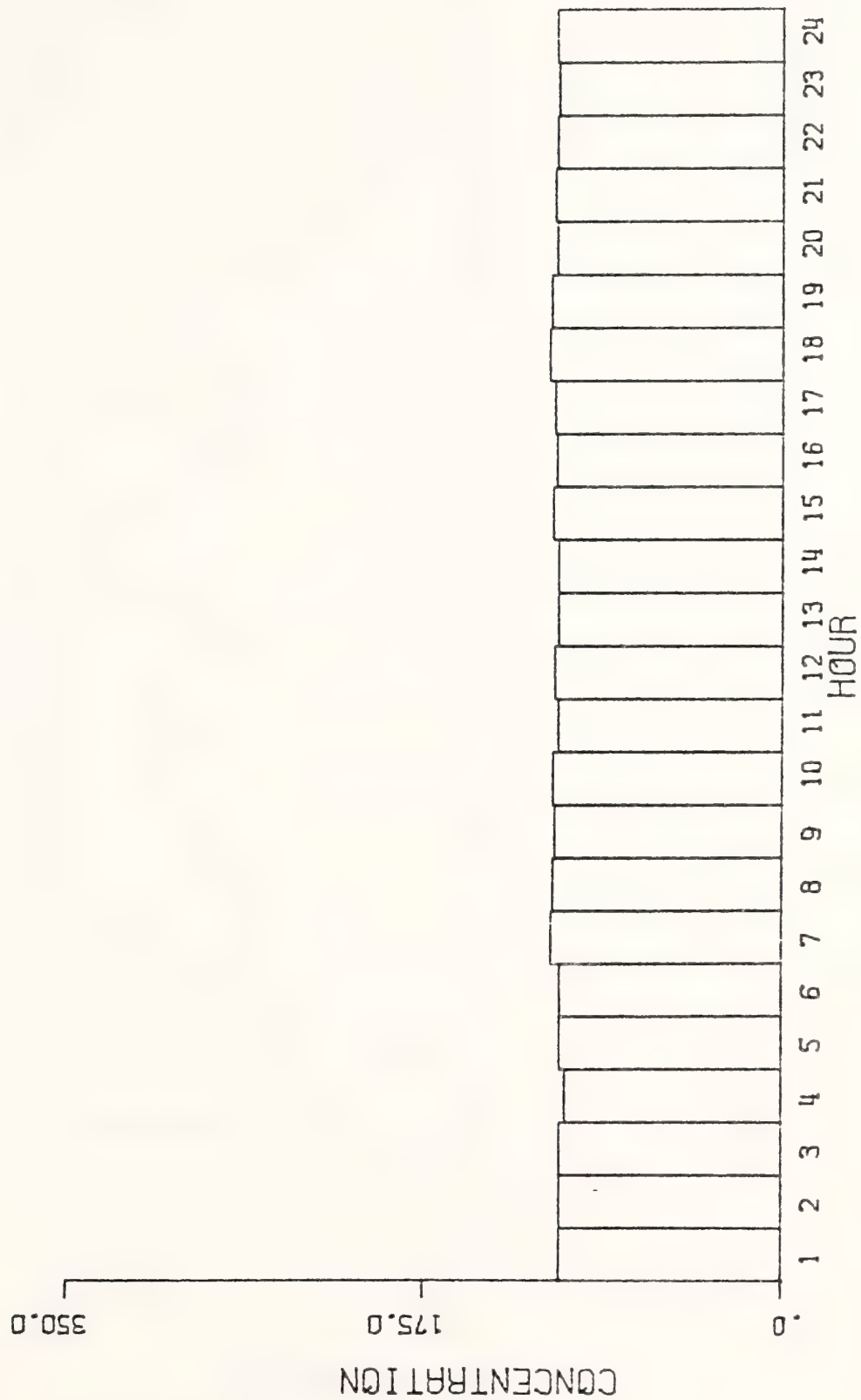




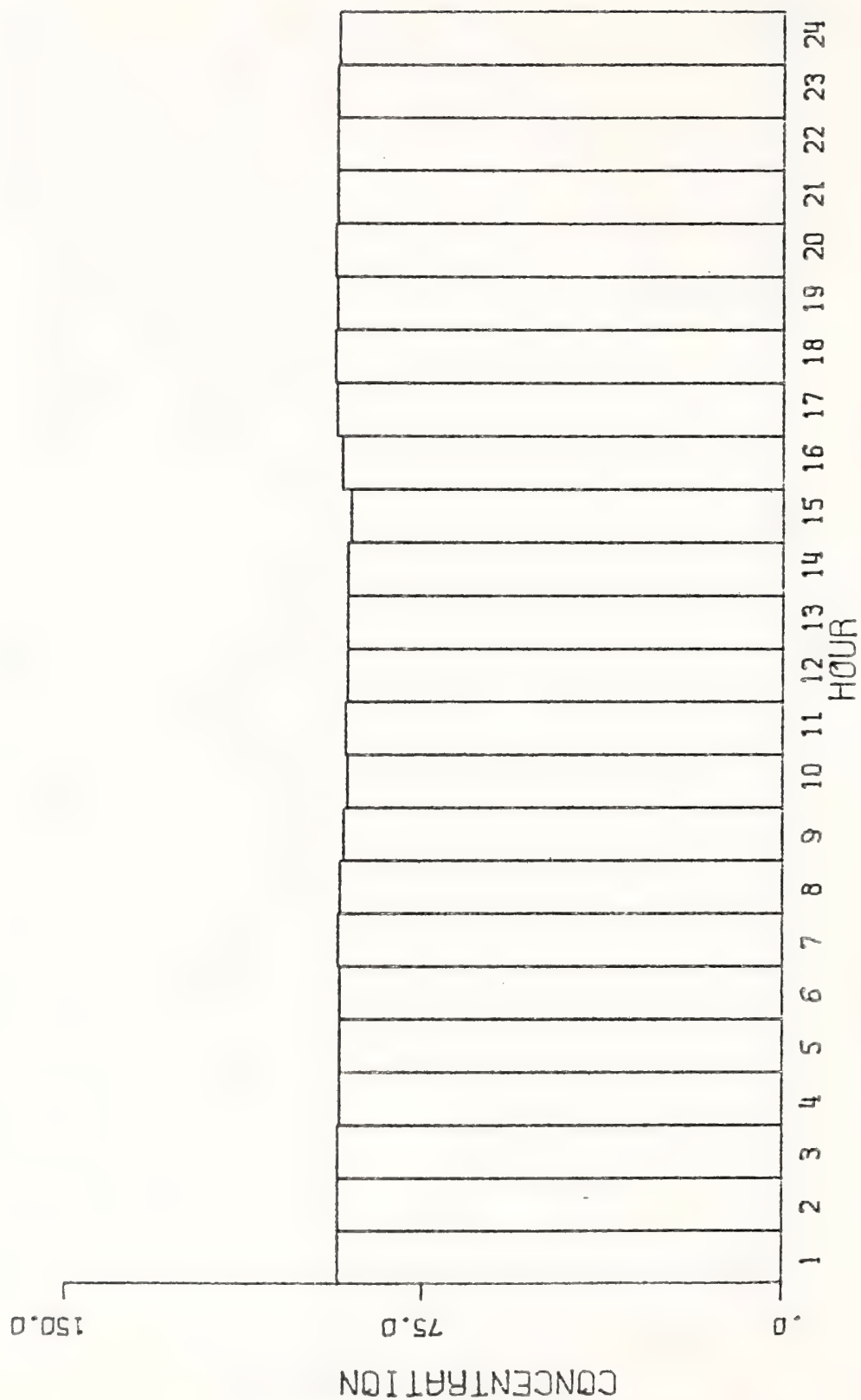




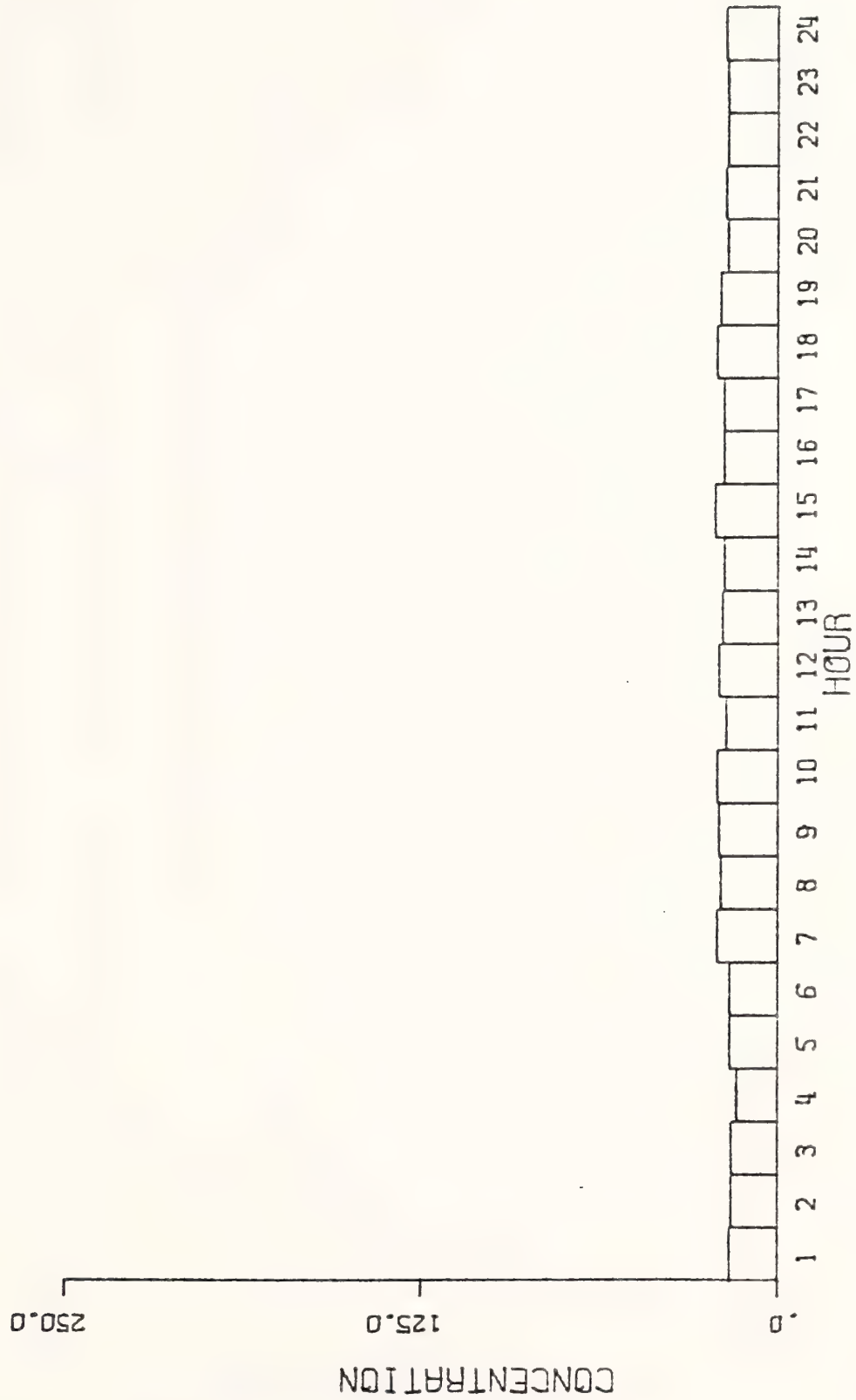




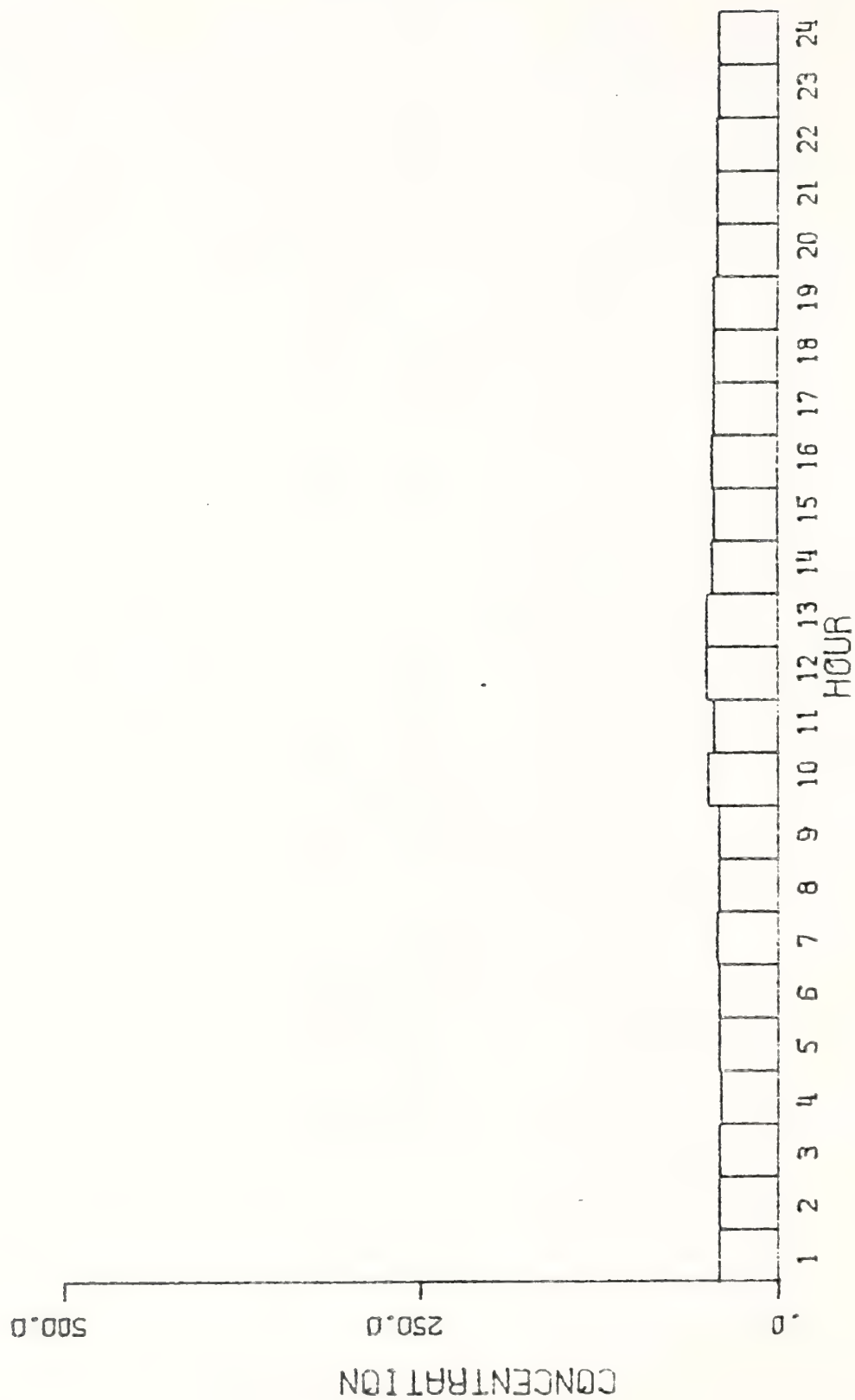
DIURNAL VARIATION OF TOTAL HYDROCARBONS(UG/M\*\*3 X 10\*\*3--1)  
SITE - 23



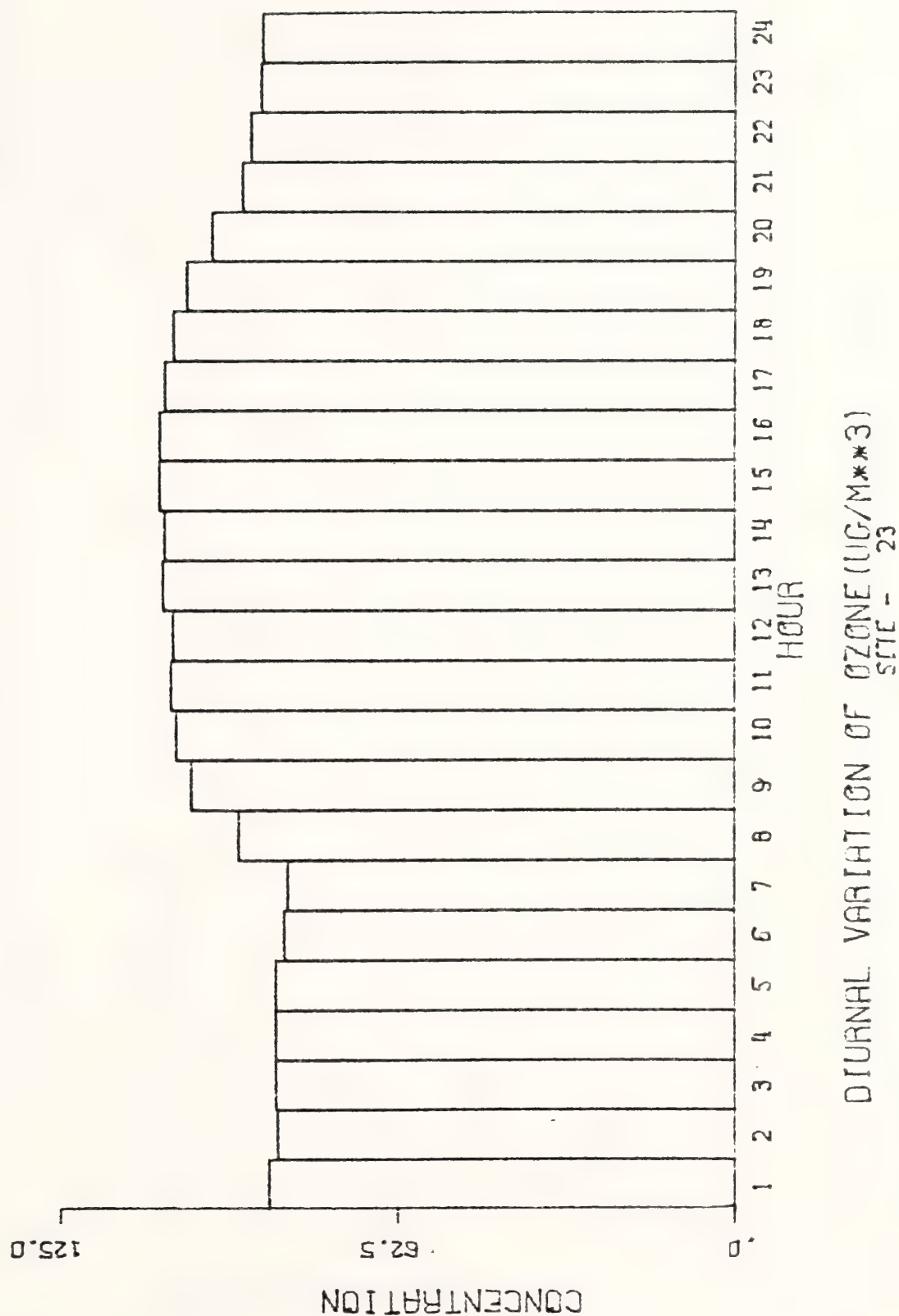
DIURNAL VARIATION OF METHANE (UG/M\*\*3 X 10\*\*\*-1)  
SITE - 23



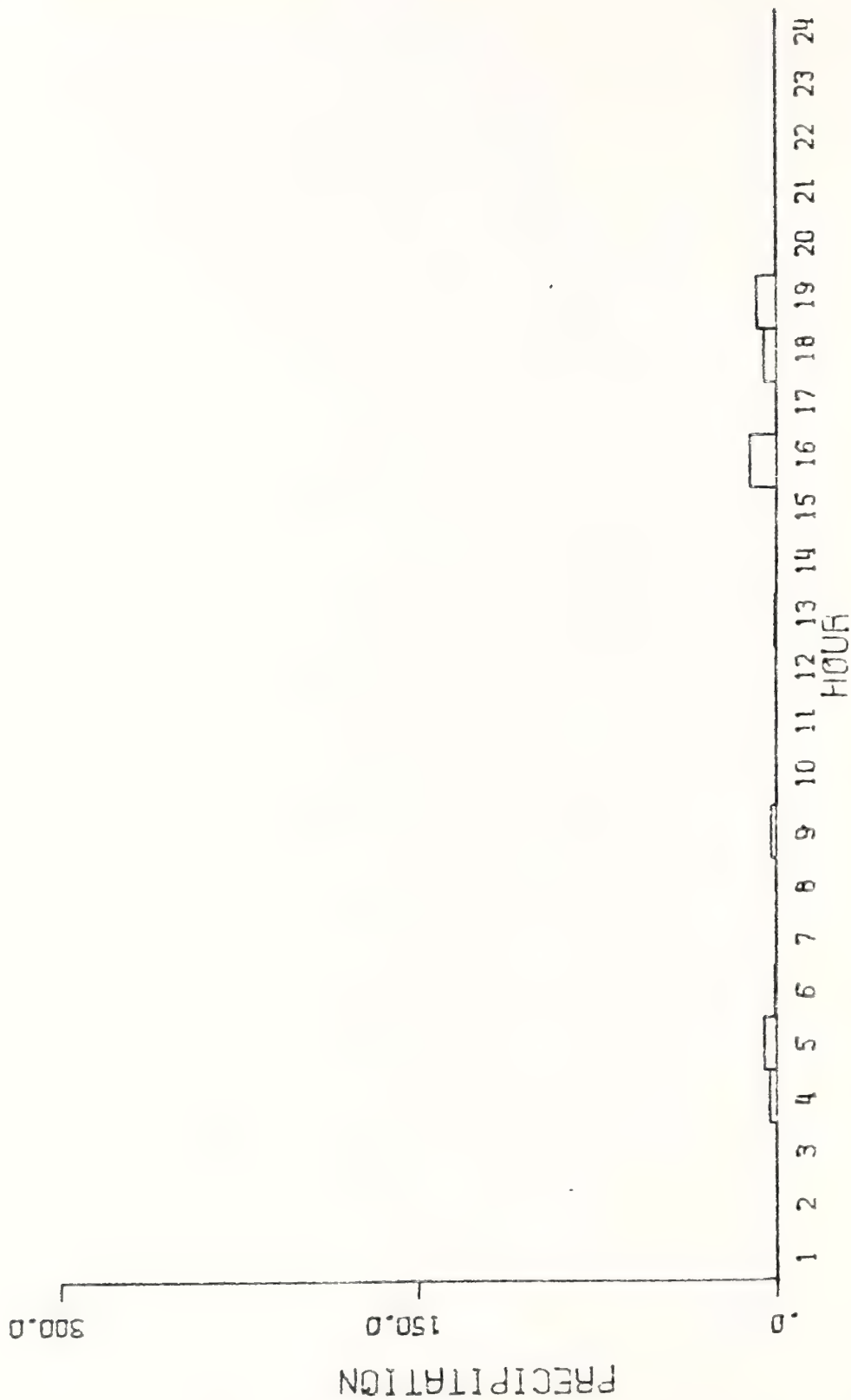
DIURNAL VARIATION OF NON-METHANE HYDROCARBONS (UG/M\*\*3 X 10\*\*--1)  
SITE - 23



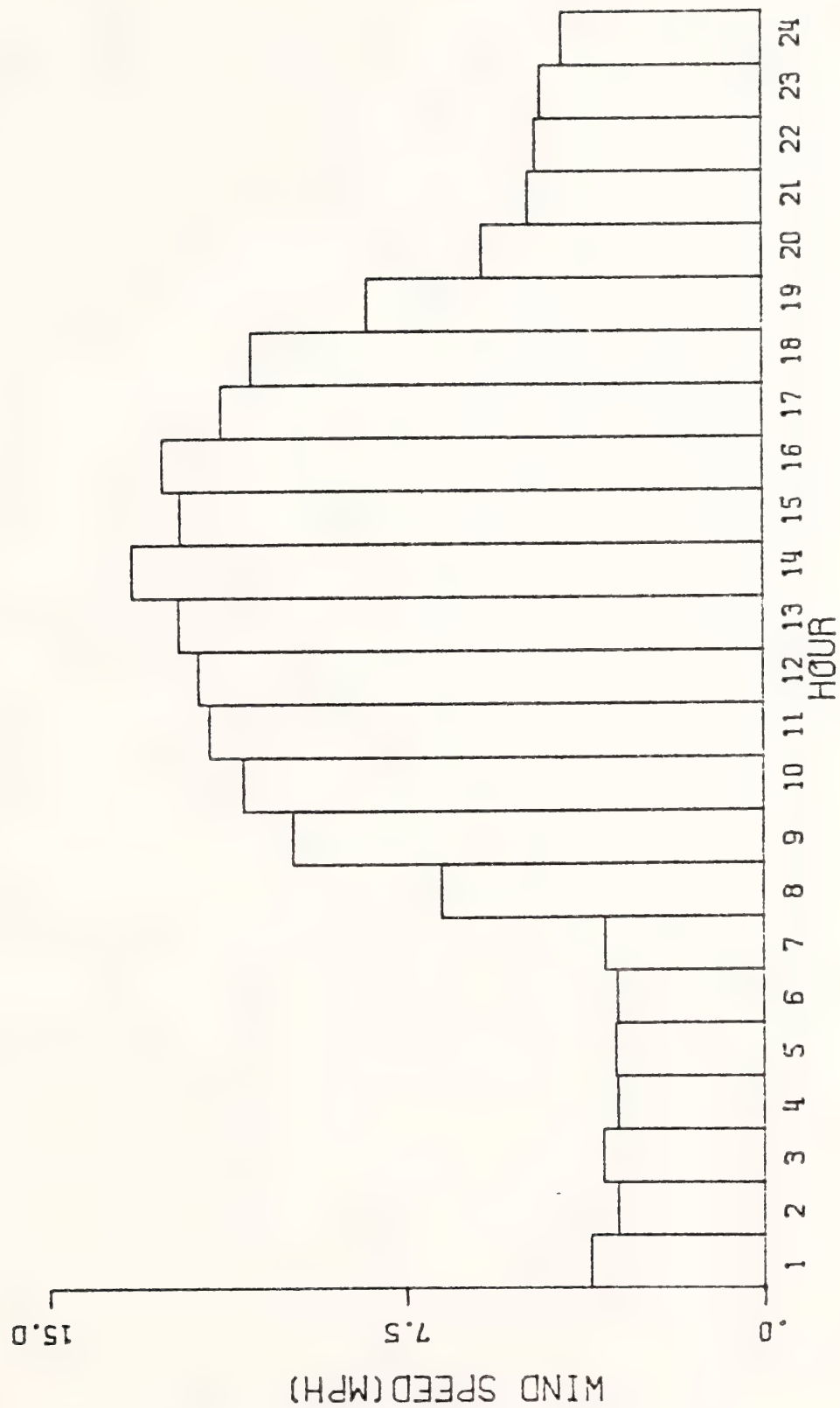
DIURNAL VARIATION OF CARBON MONOXIDE (UG/M\*\*3 X 10\*\*4-1)  
SITE - 23



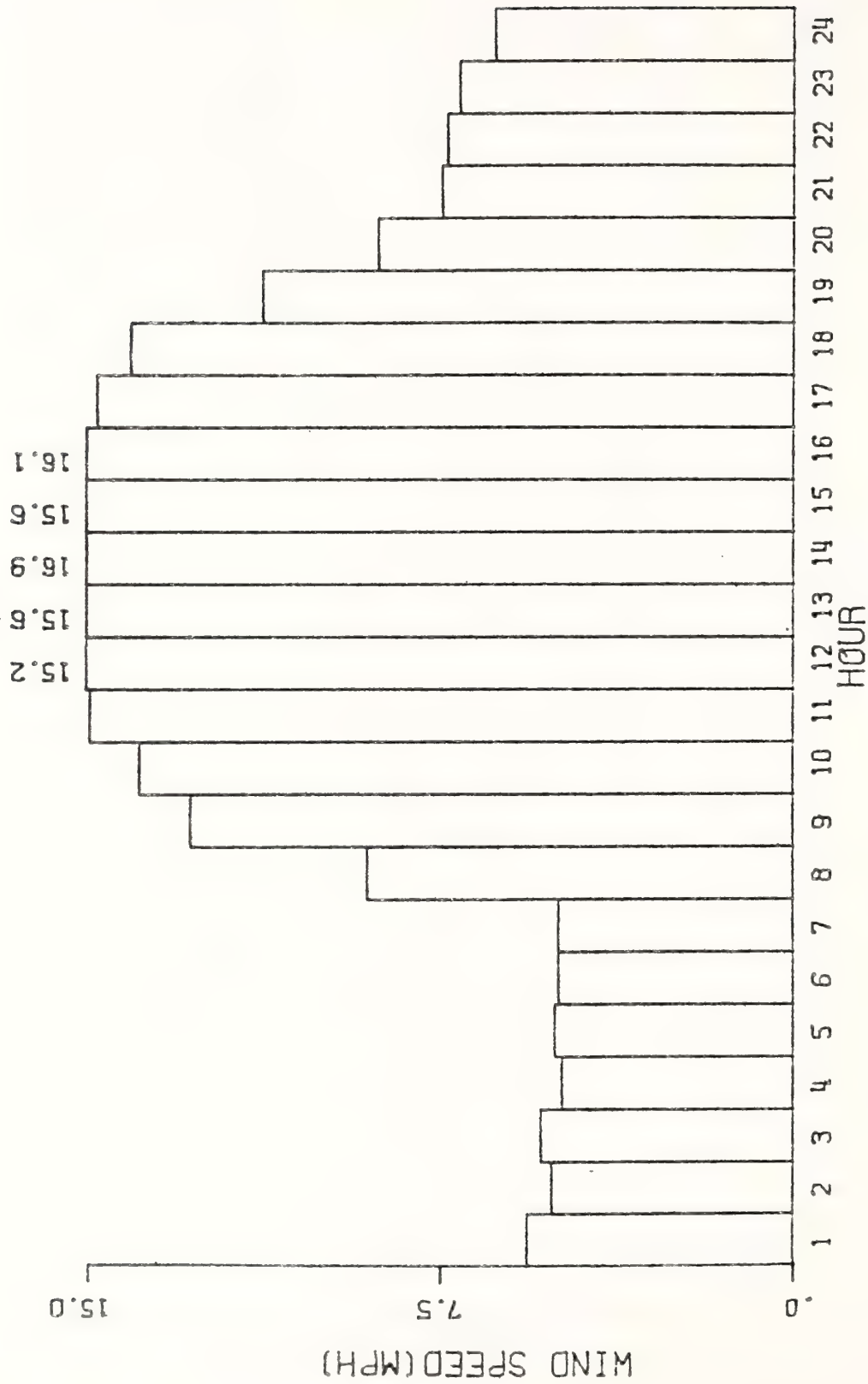




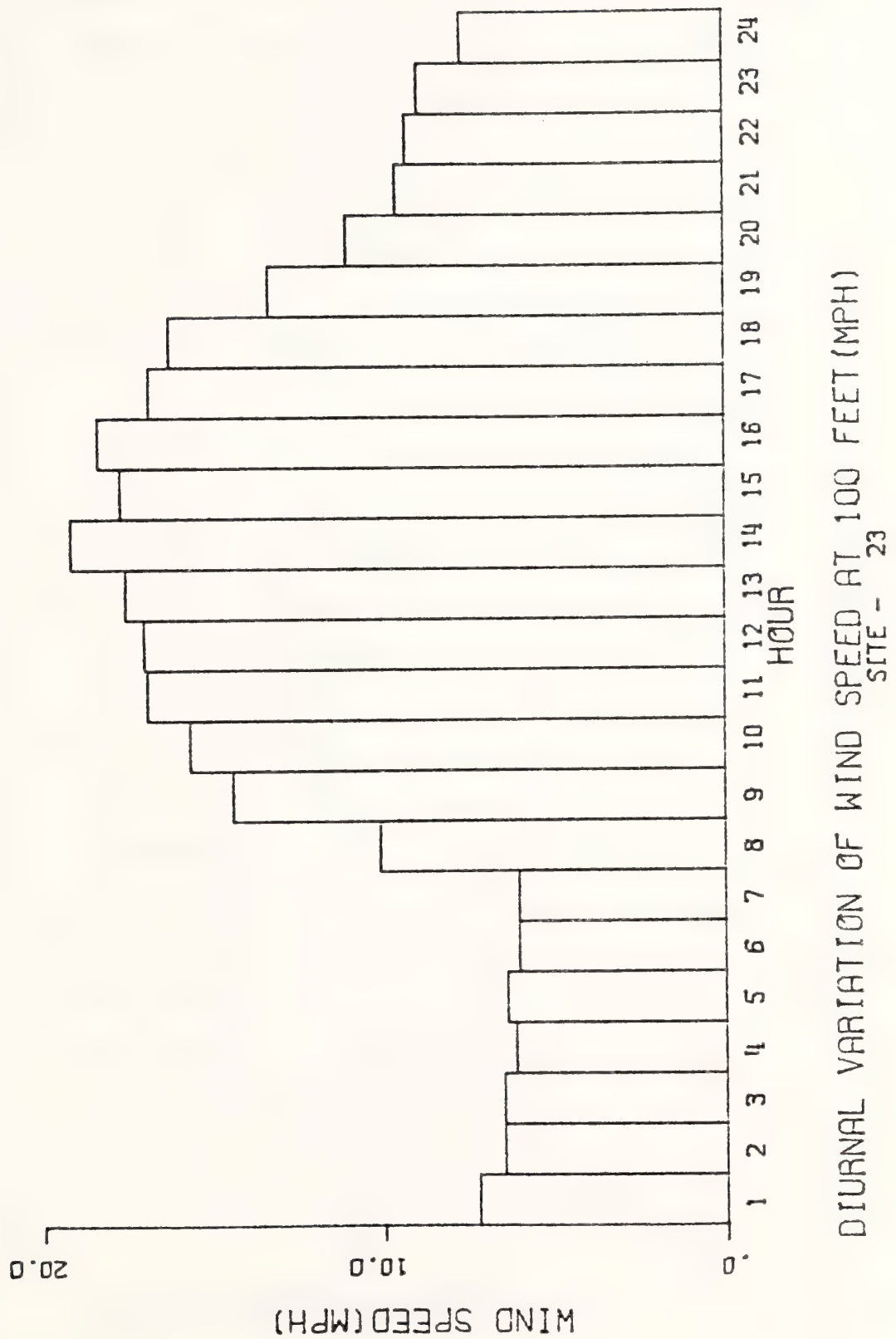
HOURLY TOTAL PRECIPITATION (HUNDRETHS OF INCHES)  
SITE - 23

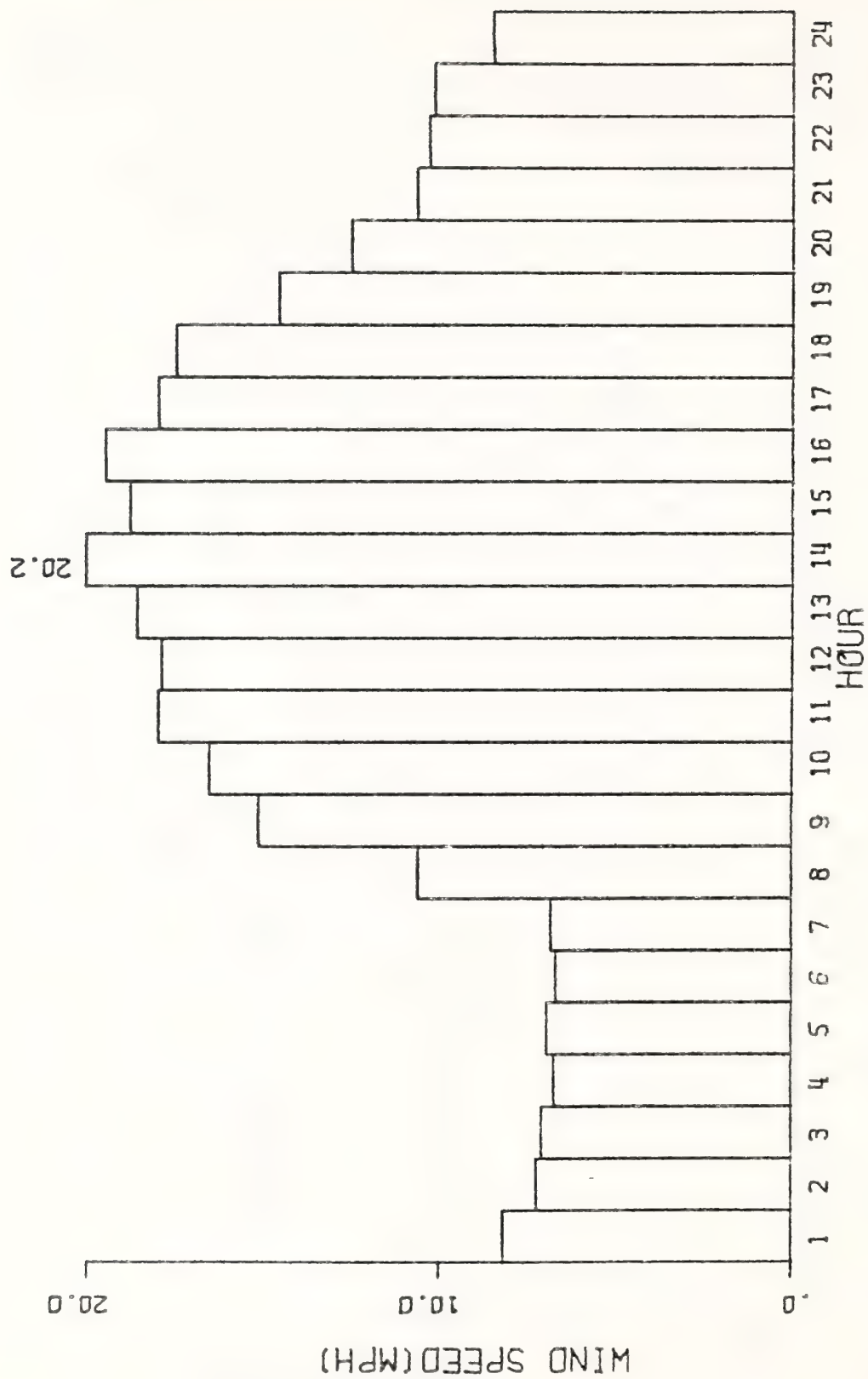


DIURNAL VARIATION OF WIND SPEED AT 8 FEET (MPH)  
SITE - 23



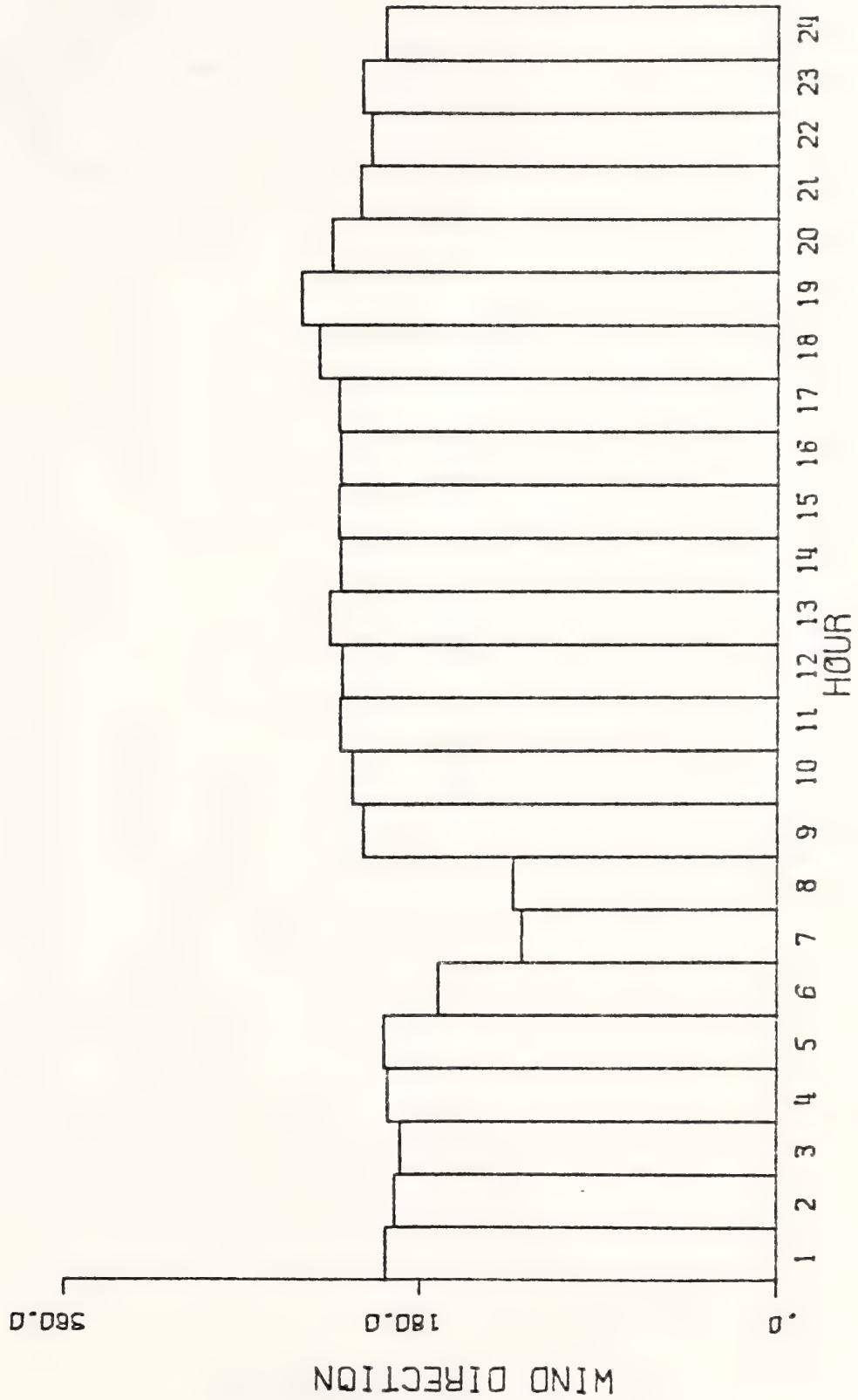
DIURNAL VARIATION OF WIND SPEED AT 30 FEET (MPH)  
SITE - 23



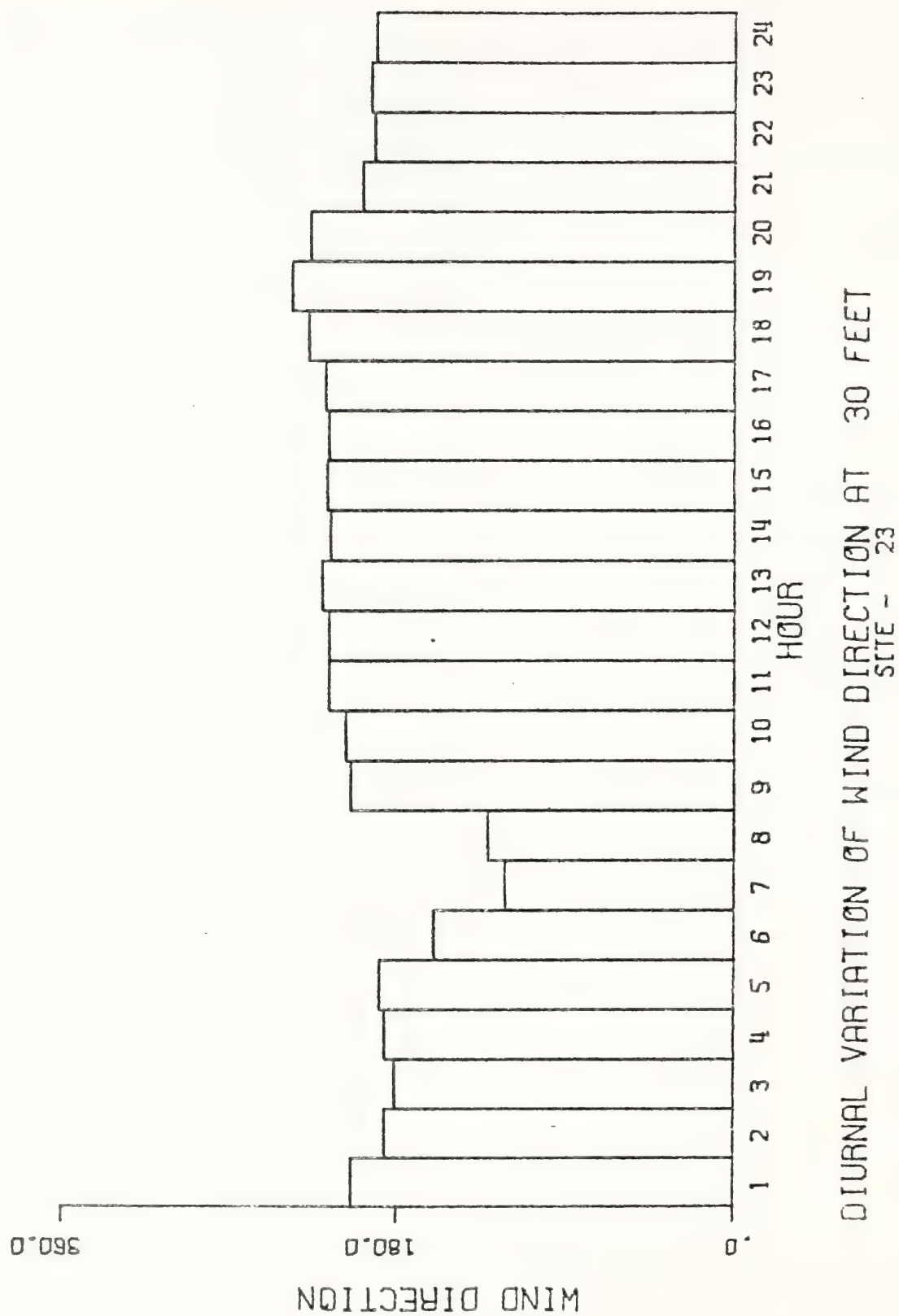


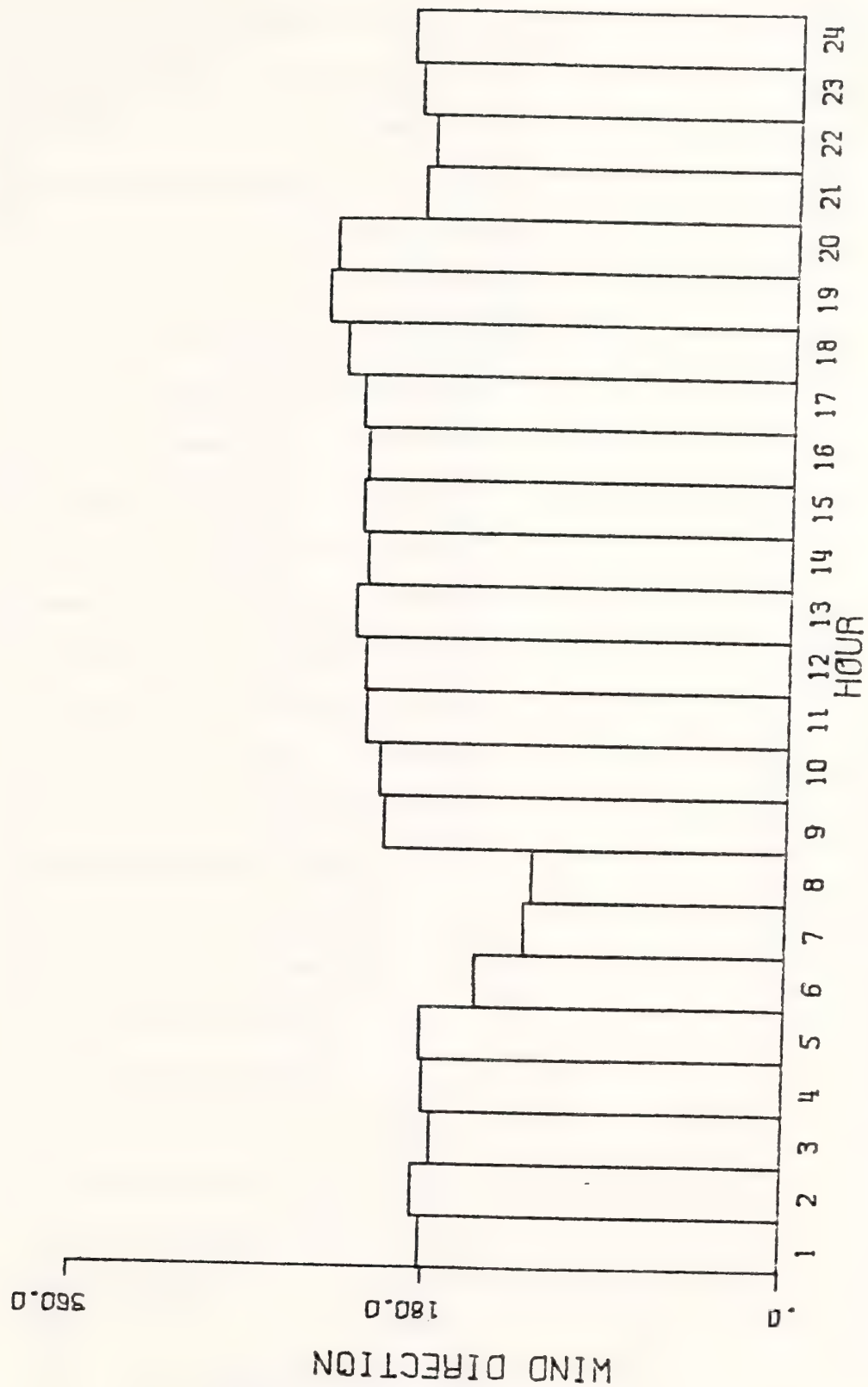
DIURNAL VARIATION OF WIND SPEED AT 200 FEET (MPH)  
SITE - 23



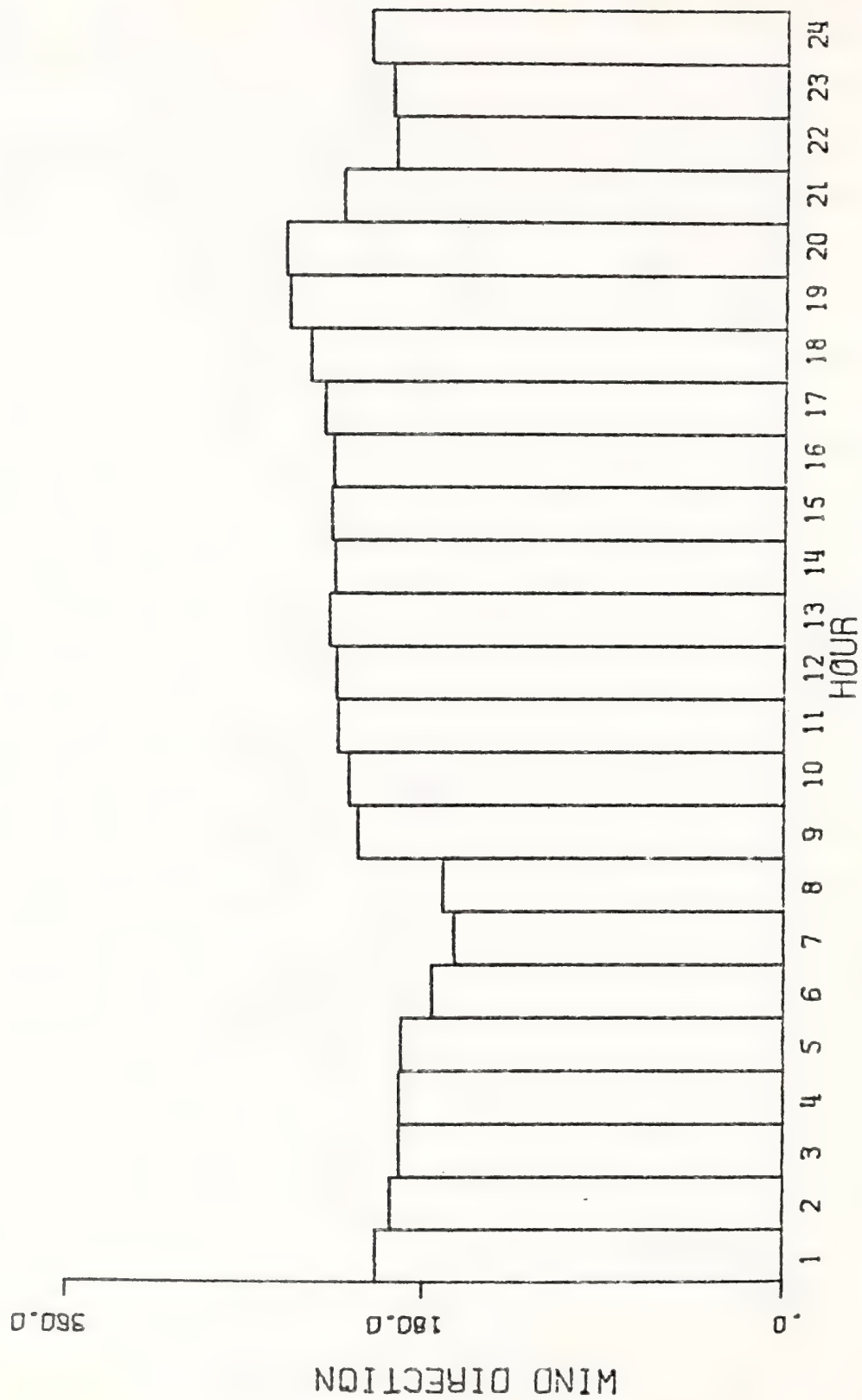


DIURNAL VARIATION OF WIND DIRECTION AT 8 FEET  
SITE - 23

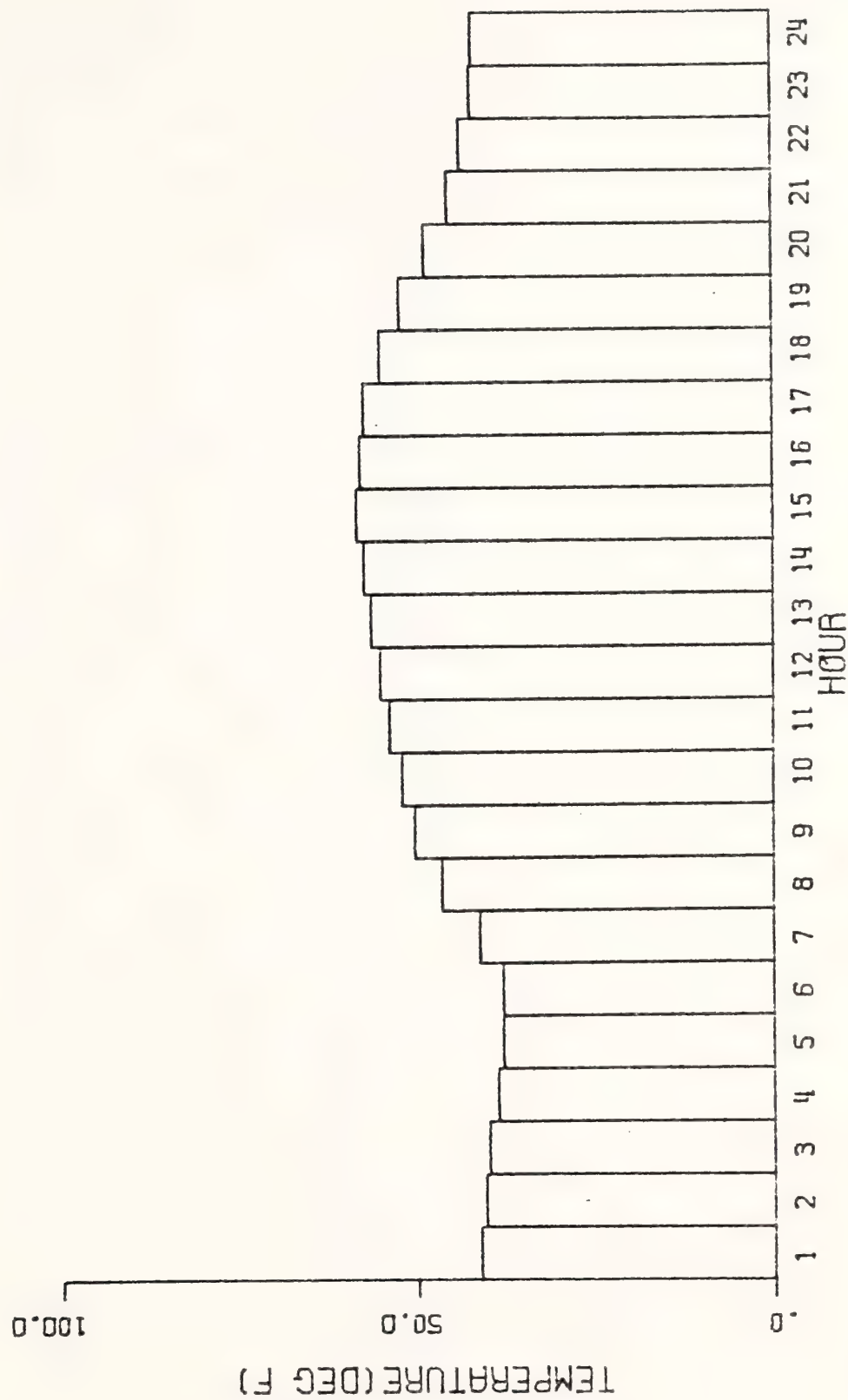




DIURNAL VARIATION OF WIND DIRECTION AT 100 FEET  
SITE - 23

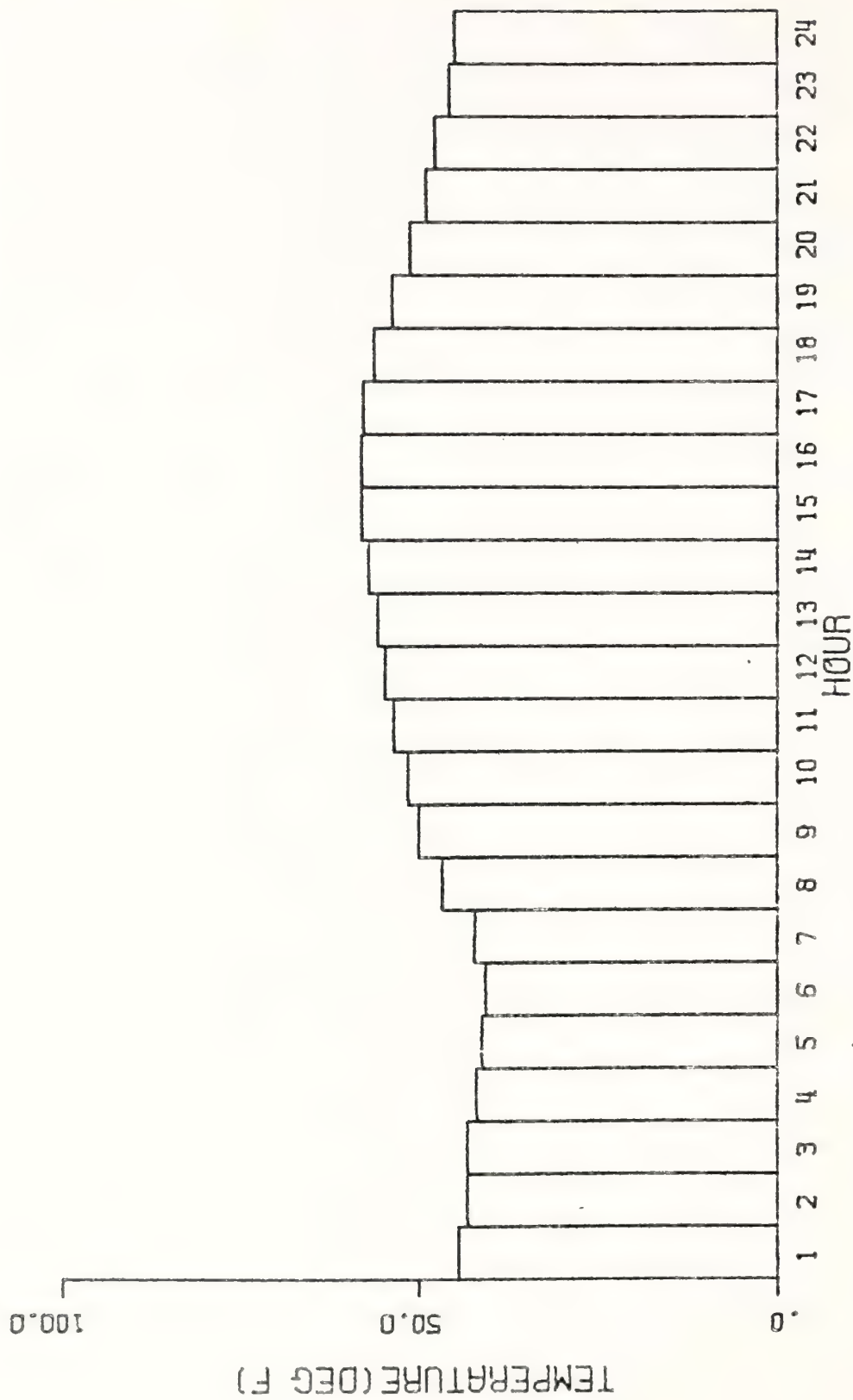


DIURNAL VARIATION OF WIND DIRECTION AT 200 FEET  
SITE - 23

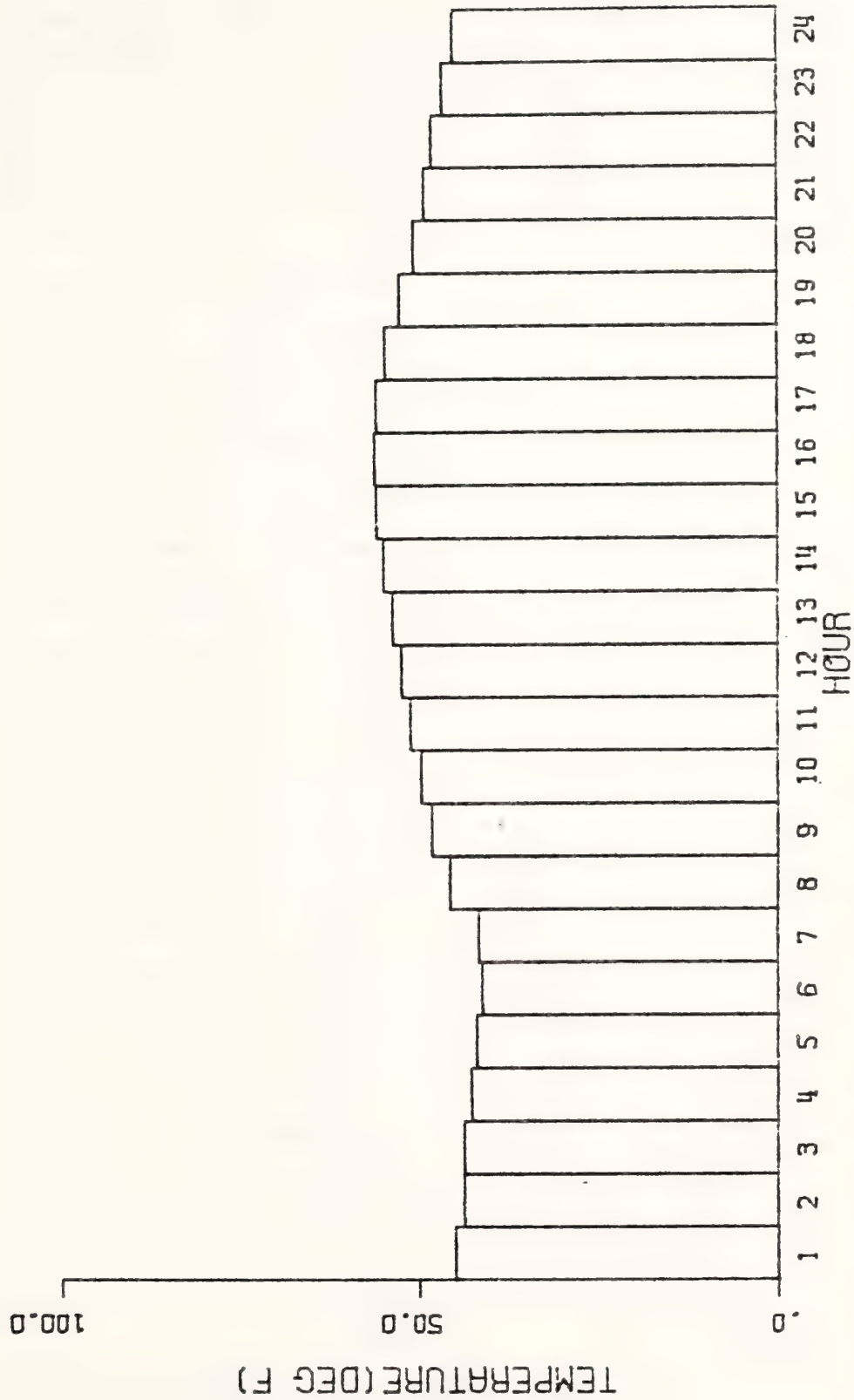


DIURNAL VARIATION OF TEMPERATURE AT 8 FEET (DEG F)  
SITE - 23

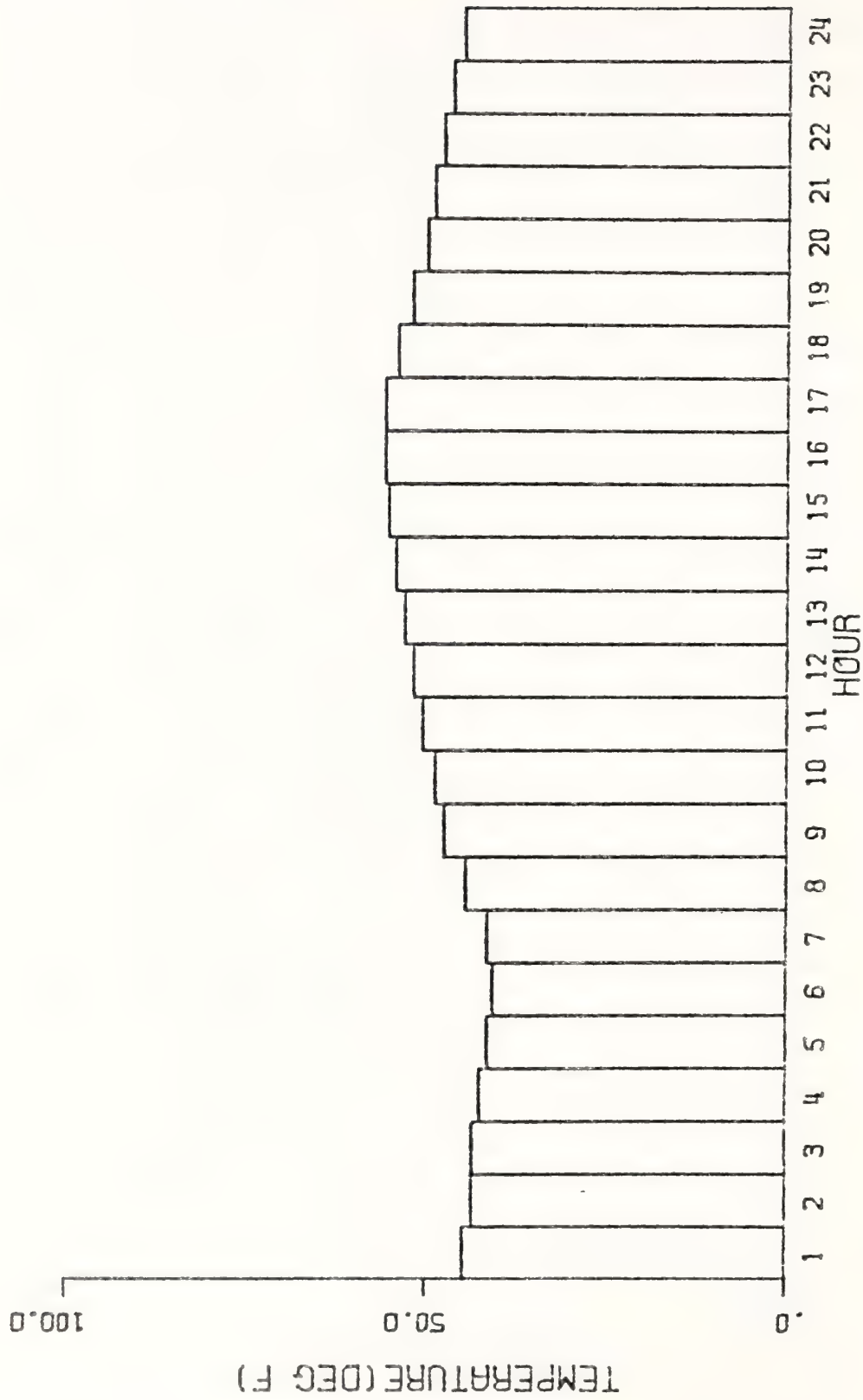




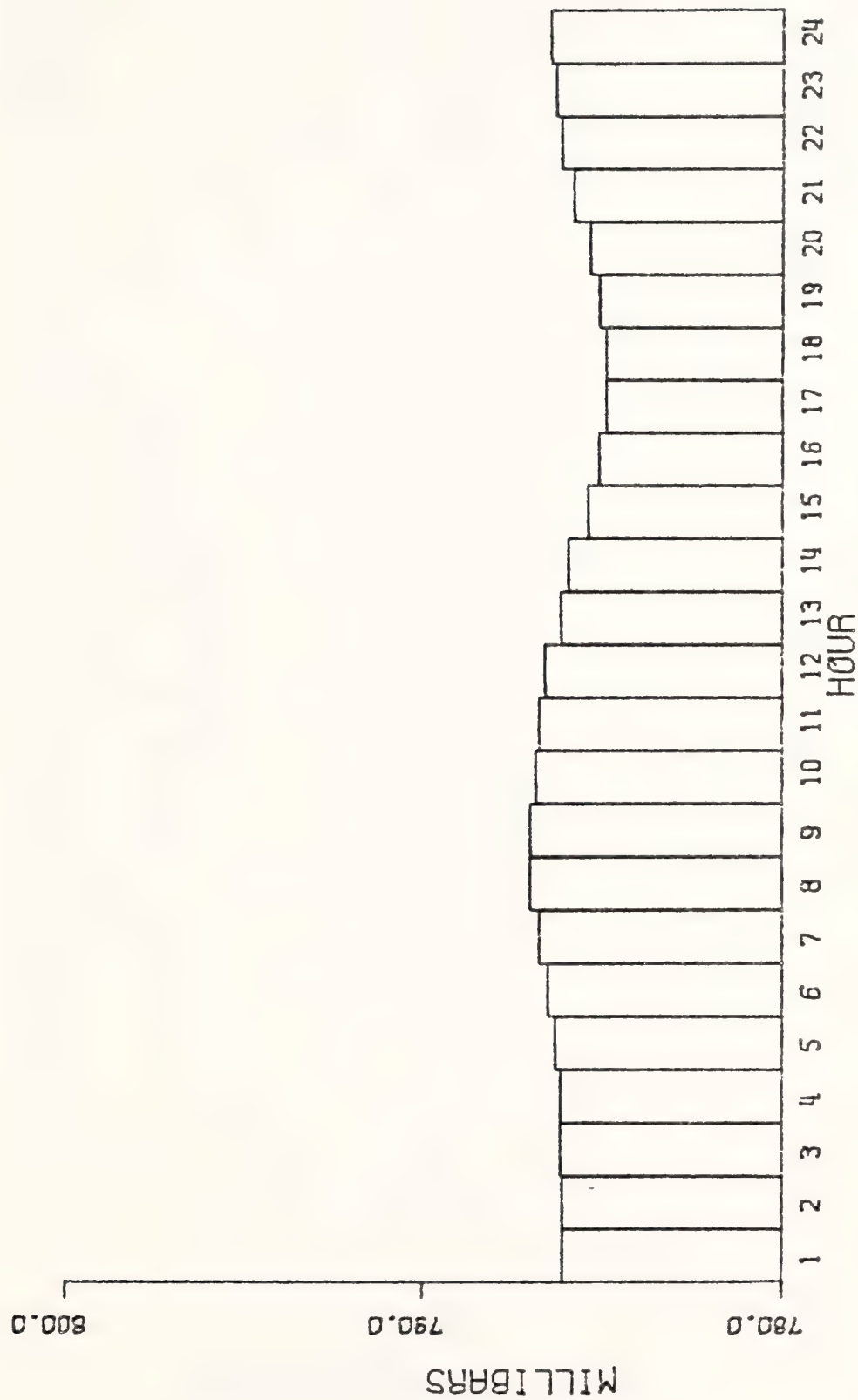
DIURNAL VARIATION OF TEMPERATURE AT 30 FEET (DEG F)  
SITE - 23



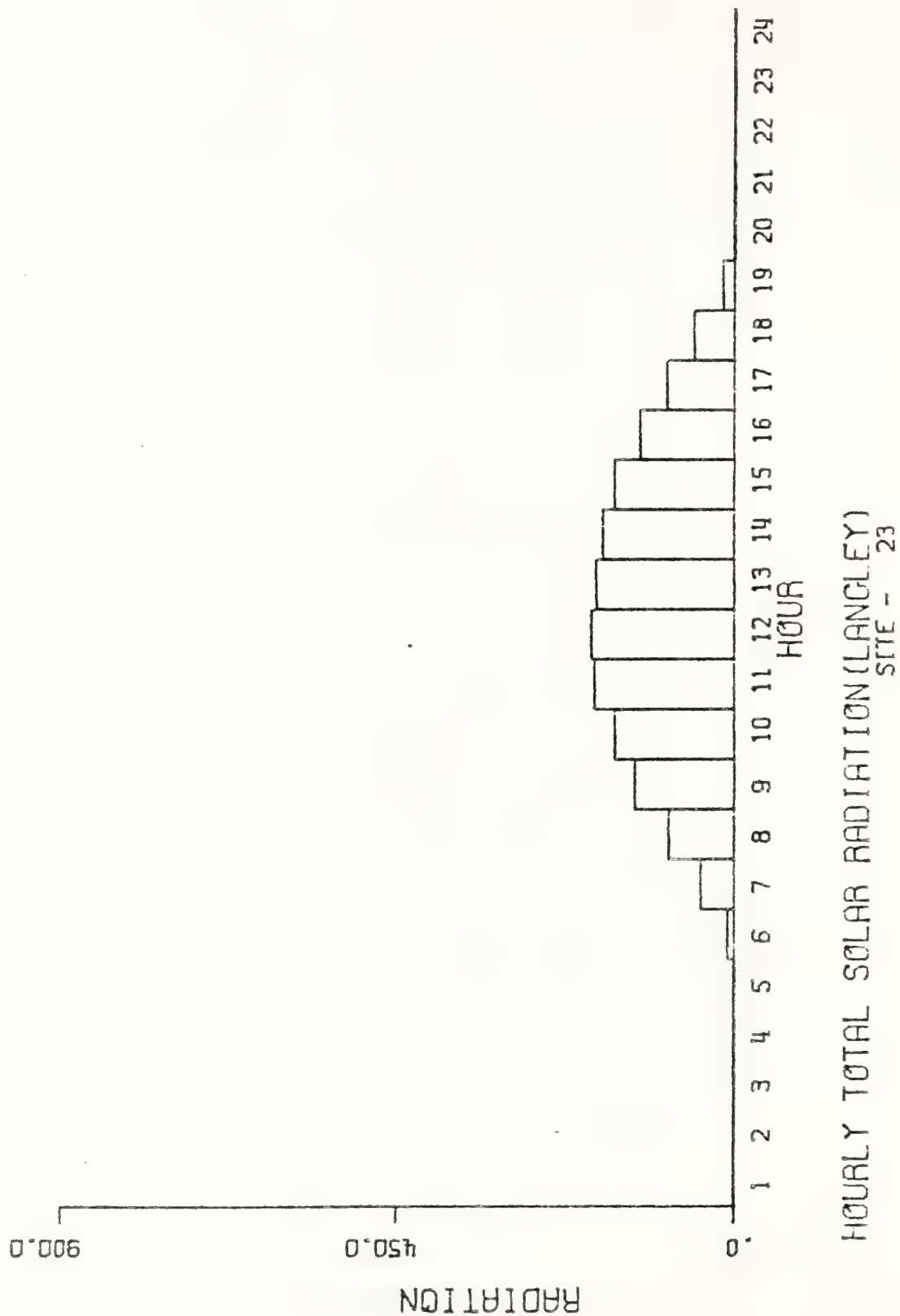
DIURNAL VARIATION OF TEMPERATURE AT 100 FEET (DEG F)  
SITE - 23



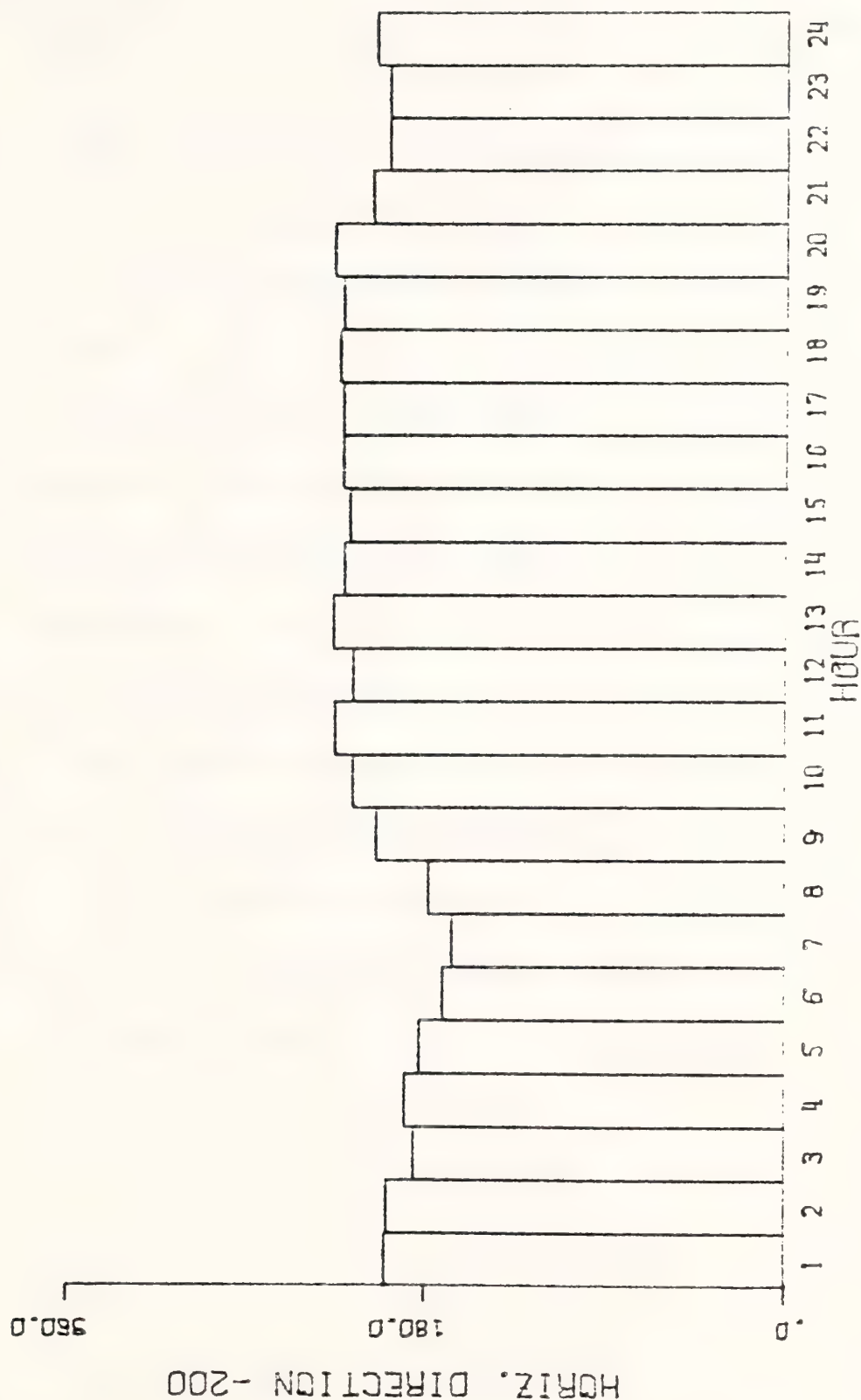
DIURNAL VARIATION OF TEMPERATURE AT 200 FEET (DEG F)  
SITE - 23



DIURNAL VARIATION OF BAROMETRIC PRESSURE  
SITE - 23







DIURNAL VARIATION OF HORIZONTAL BI-VANE WIND DIRECTION AT 200 FEET  
SITE - 23

\* NON-ZERO PYRANOMETER READING BUT STABILITY CLASS UNCERTAIN SINCE NIGHTTIME NET RADIATION INDEX IS REQUIRED

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DY/DZ (LEVEL 1)  
PERIOD( 5/ 1/77 TO 5/31/77)

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| HOUR |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 1 | F | E | D | D | D | C | E | F | F | D  | F  | F  | F  | F  | F  | D  | D  | E  | B  | R  | F  |    |    |    |
| 5/ 2 | F | E | E | D | D | E | E | F | F | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  |
| 5/ 3 | F | E | F | D | E | E | D | E | F | F  | D  | C  | F  | E  | E  | E  | C  | E  | E  | A  | D  | F  |    |    |
| 5/ 4 | F | E | E | E | E | D | E | F | F | E  | D  | F  | F  | F  | F  | F  | D  | A  | F  | A  | E  | F  |    |    |
| 5/ 5 | E | F | E | F | E | D | E | F | E | R  | F  | F  | F  | F  | F  | B  | B  | F  | A  | D  | F  |    |    |    |
| 5/ 6 | E | E | E | F | F | D | E | F | E | B  | E  | E  | F  | F  | A  | D  | F  | A  | E  | F  |    |    |    |    |
| 5/ 7 | E | E | E | E | D | D | B | F | D | B  | E  | F  | D  | A  | B  | D  | A  | R  | D  |    |    |    |    |    |
| 5/ 8 | D | A | B | B | A | D | D | A | B | D  | B  | B  | A  | A  | A  | B  | D  | B  | D  | A  |    |    |    |    |
| 5/ 9 | D | C | D | C | D | D | D | B | D | B  | D  | B  | A  | A  | A  | C  | D  | D  | D  | B  |    |    |    |    |
| 5/10 | D | C | C | C | D | D | D | D | C | D  | D  | D  | D  | D  | B  | A  | A  | D  | D  | D  | B  |    |    |    |
| 5/11 | D | D | D | D | D | D | D | D | C | C  | D  | D  | D  | D  | B  | B  | D  | D  | D  | D  | D  | B  |    |    |
| 5/12 | D | C | D | D | D | D | D | D | C | C  | D  | D  | D  | D  | A  | R  | R  | D  | D  | D  | D  | D  | B  |    |
| 5/13 | D | D | D | C | D | D | D | D | D | D  | D  | D  | C  | D  | D  | D  | A  | B  | B  | D  | D  | D  | D  |    |
| 5/14 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | C  | B  |
| 5/15 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/16 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/17 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/18 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/19 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/20 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/21 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/22 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/23 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/24 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/25 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/26 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/27 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/28 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/29 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/30 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |
| 5/31 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | C  | B  | C  | B  | C  | B  | D  | D  | D  | C  |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 5/ 1/77 TO 5/31/77)

# HOURLY WIND AND DIRECTION

## A STABILITY CLASS

[illegible]

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
 PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
 A STABILITY CLASS

4  
NW

|      |    |     |     |     |        |
|------|----|-----|-----|-----|--------|
| 5/17 | 3  | 3   | 1   | 2   | 2      |
| 5/18 | NW | NNE | NNW | WNW | SE ENE |
| 5/19 | 3  |     |     |     |        |
| 5/20 | NW |     |     |     |        |
| 5/21 |    |     |     |     |        |
| 5/22 |    |     |     |     |        |
| 5/23 |    |     |     |     |        |
| 5/24 |    |     |     |     |        |
| 5/25 |    |     |     |     |        |
| 5/26 |    |     |     |     |        |
| 5/27 |    |     |     |     |        |
| 5/28 |    |     |     |     |        |
| 5/29 |    |     |     |     |        |
| 5/30 |    |     |     |     |        |
| 5/31 |    |     |     |     |        |

3 N



C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
B STABILITY CLASS

|      | HOUR |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|      | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 5/ 1 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 2 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 3 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 4 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 5 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 6 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 7 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 8 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 9 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/10 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/11 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/12 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/13 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/14 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/15 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/16 |      |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
 PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
 B STABILITY CLASS

|      |    |     |    |     |   |     |
|------|----|-----|----|-----|---|-----|
| 5/17 | 4  | 8   | 9  | 7   | 5 | 6   |
| 5/18 | N  | WSW | W  | NNW | W | NNW |
| 5/19 | 6  | 6   | 11 |     |   |     |
| 5/20 | NW | ENE | NW |     |   |     |
| 5/21 |    |     |    |     |   |     |
| 5/22 |    |     |    |     |   |     |
| 5/23 |    |     |    |     |   |     |
| 5/24 |    |     |    |     |   |     |
| 5/25 |    |     |    |     |   |     |
| 5/26 |    |     |    |     |   |     |
| 5/27 |    |     |    |     |   |     |
| 5/28 |    |     |    |     |   |     |
| 5/29 |    |     |    |     |   |     |
| 5/30 |    |     |    |     |   |     |
| 5/31 |    |     |    |     |   |     |

C-3 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9         | 10        | 11       | 12        | 13       | 14 | 15 | 16 | 17 | 18        | 19        | 20      | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|-----------|-----------|----------|-----------|----------|----|----|----|----|-----------|-----------|---------|----|----|----|----|
| 5/ 1 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           |           |         |    |    |    |    |
| 5/ 2 |   |   |   |   |   |   |   |   | 12<br>SSW | 11<br>SSW | 12<br>SW |           |          |    |    |    |    | 12<br>SSW |           |         |    |    |    |    |
| 5/ 3 |   |   |   |   |   |   |   |   |           | 13<br>SSW |          |           |          |    |    |    |    | 12<br>SSE | 7<br>SSE  |         |    |    |    |    |
| 5/ 4 |   |   |   |   |   |   |   |   | 12<br>WNW | 11<br>WNW |          | 12<br>WSW |          |    |    |    |    | 13<br>WNW | 14<br>WNW |         |    |    |    |    |
| 5/ 5 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           |           |         |    |    |    |    |
| 5/ 8 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           | 14<br>SSW |         |    |    |    |    |
| 5/ 7 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           |           |         |    |    |    |    |
| 5/ 8 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           |           |         |    |    |    |    |
| 5/ 9 |   |   |   |   |   |   |   |   |           | 13<br>S   | 12<br>S  |           |          |    |    |    |    |           |           |         |    |    |    |    |
| 5/10 |   |   |   |   |   |   |   |   |           |           | 12<br>SW | 12<br>SW  | 13<br>SW |    |    |    |    |           | 13<br>SW  |         |    |    |    |    |
| 5/11 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    | 12<br>SSW |           |         |    |    |    |    |
| 5/12 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           |           |         |    |    |    |    |
| 5/13 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           |           |         |    |    |    |    |
| 5/14 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           |           |         |    |    |    |    |
| 5/15 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           | 13<br>SW  | 9<br>SE |    |    |    |    |
| 5/16 |   |   |   |   |   |   |   |   |           |           |          |           |          |    |    |    |    |           |           |         |    |    |    |    |

12  
WNW

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/02 (LEVEL 1)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

|      |    |    |    |
|------|----|----|----|
| 5/17 | 11 |    |    |
| 5/18 | SW |    |    |
| 5/19 |    | 12 | 4  |
| 5/20 |    | W  | NW |
| 5/21 |    |    |    |
| 5/22 |    |    |    |
| 5/23 |    |    |    |
| 5/24 |    |    |    |
| 5/25 |    |    |    |
| 5/26 |    |    |    |
| 5/27 |    |    |    |
| 5/28 |    |    |    |
| 5/29 |    |    |    |
| 5/30 |    |    |    |
| 5/31 |    |    |    |

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/02 (LEVEL 1)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
D STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8      | 9      | 10     | 11     | 12     | 13     | 14     | 15     | 16     | 17     | 18   | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|----|----|----|----|----|----|
| 5/ 1 |   |   |   |   |   |   |   | 18 SSW | 18 SSW | 15 SSW | 19 SSW | 17 SSW | 18 SSW | 17 SSW | 16 SSW | 17 SSW | 16 SSW |      |    |    |    |    |    |    |
| 5/ 2 |   |   |   |   |   |   |   | SSW    | SSW    | SSW    | SSW    | SSW    | SSW    | SSW    | SSW    | SSW    | SSW    | 14 S |    |    |    |    |    |    |
| 5/ 3 |   |   |   |   |   |   |   |        | 16 SSW |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/ 4 |   |   |   |   |   |   |   |        | SSW    |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/ 5 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/ 6 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/ 7 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/ 8 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/ 9 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/10 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/11 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/12 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/13 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/14 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/15 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |
| 5/16 |   |   |   |   |   |   |   |        |        |        | SSW    | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 18 SSW | 14 S |    |    |    |    |    |    |



HOURLY WIND AND DIRECTION  
D STABILITY CLASS

[illegible]

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 1)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
E STABILITY CLASS

|      | 1         | 2         | 3         | 4         | 5         | 6         | 7        | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20        | 21        | 22        | 23       | 24        |
|------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---|---|----|----|----|----|----|----|----|----|----|----|-----------|-----------|-----------|----------|-----------|
| 5/ 1 |           |           | 10<br>SSW |           | 8<br>SSE  | 2<br>SE   | 7<br>S   |   |   |    |    |    |    |    |    |    |    |    |    |           | 2<br>E    | 3<br>ESE  |          | 3<br>SW   |
| 5/ 2 | 0<br>ENE  | 0<br>NE   |           | 0<br>SE   |           | 1<br>WNW  | 1<br>ENE |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           | 11<br>S  |           |
| 5/ 3 |           | 11<br>S   |           | 13<br>S   | 12<br>S   | 10<br>S   | 9<br>S   |   |   |    |    |    |    |    |    |    |    |    |    | 10<br>SSE |           |           |          |           |
| 5/ 4 |           |           | 10<br>SSW | 6<br>SW   |           |           | 8<br>NW  |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           |          |           |
| 5/ 5 |           |           | 2<br>W    | 2<br>WSW  | 2<br>WSW  |           |          |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           | 2<br>WNW | 1<br>W    |
| 5/ 6 |           | 12<br>SSE |           |           |           |           |          |   |   |    |    |    |    |    |    |    |    |    |    |           | 9<br>SSE  | 11<br>SSE |          | 12<br>SSE |
| 5/ 7 | 11<br>SSE | 11<br>SSE | 10<br>SSE | 11<br>SSE | 12<br>SSE | 10<br>SE  |          |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           |          |           |
| 5/ 8 |           |           |           |           |           |           |          |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           |          |           |
| 5/ 9 |           |           |           | 12<br>SSE | 10<br>SE  | 11<br>SSE |          |   |   |    |    |    |    |    |    |    |    |    |    | 10<br>SSW | 12<br>SSW | 11<br>SSW | 10<br>S  |           |
| 5/10 |           |           |           |           |           |           |          |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           |          |           |
| 5/11 |           |           |           |           |           |           |          |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           |          |           |
| 5/12 |           |           | 11<br>SSE |           | 1<br>SW   | 4<br>SE   | 3<br>SE  |   |   |    |    |    |    |    |    |    |    |    |    |           |           | 9<br>S    |          |           |
| 5/13 |           | 10<br>SSE | 4<br>SE   |           |           |           |          |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           |          |           |
| 5/14 |           |           | 7<br>SSW  |           |           |           |          |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           |          |           |
| 5/15 |           |           |           |           |           |           |          |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           |          |           |
| 5/16 | 8<br>SSE  |           | 4<br>S    |           |           |           |          |   |   |    |    |    |    |    |    |    |    |    |    |           |           |           |          |           |

HOURLY WIND AND DIRECTION  
E STABILITY CLASS

5/17  
5/18  
5/19  
5/20  
5/21  
5/22  
5/23  
5/24  
5/25  
5/26  
5/27  
5/28  
5/29  
5/30  
5/31

SW 2

235

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/02 (LEVEL 1)  
PERIOD: 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
F STABILITY CLASS

|      | 1   | 2   | 3  | 4   | 5   | 6  | 7   | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21  | 22 | 23 | 24 |
|------|-----|-----|----|-----|-----|----|-----|---|---|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|
| 5/ 1 | 8   | 8   |    | 1   |     |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/ 2 | S   | S   |    | WSW |     |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/ 3 |     |     | 0  | NW  | 0   | NE |     |   |   |    |    |    |    |    |    |    |    |    |    | 7  | 9   | 9  | 1  |    |
| 5/ 4 |     |     |    |     |     |    |     |   |   |    |    |    |    |    |    |    |    |    |    | SW | SSW | S  |    |    |
| 5/ 5 |     |     |    |     |     |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/ 6 |     |     |    |     |     |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/ 7 |     |     |    |     |     |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/ 8 | 2   | WSW | 3  | 4   | 4   | 1  | 0   |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/ 9 | WSW | 6   | SE | SSE | S   | E  | ENE |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/10 |     | S   |    |     |     |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/11 | 2   | WSW | 1  | 1   | 2   |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/12 | WSW | 2   | N  | SSE | SE  |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/13 |     | E   | 8  | SSW | 4   |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/14 |     | 9   |    | 5   | 7   | 3  |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/15 |     | SE  |    | SSW | SSE | SE |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |
| 5/16 |     |     |    |     |     |    |     |   |   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |

HOURLY WIND AND DIRECTION  
F STABILITY CLASS

|   |     |     |    |     |     |
|---|-----|-----|----|-----|-----|
| 1 | 1   | 1   | 2  | 2   | 3   |
| W | WNW | NNE | SE | SSW | SSW |

5/31



C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
PERIOD( 5/ 1/77 TO 5/31/77)

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| HOUR | F | F | F | F | F | F | F | F | F | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  | F  |
| 5/1  | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/2  | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/3  | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/4  | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/5  | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/6  | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/7  | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/8  | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/9  | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/10 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/11 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/12 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/13 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/14 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/15 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/16 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/17 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/18 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/19 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/20 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/21 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/22 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/23 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/24 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/25 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/26 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/27 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/28 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/29 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/30 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |
| 5/31 | D | D | D | D | D | D | D | D | D | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  | D  |

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
 STABILITY CLASS DETERMINATION USING OT/DZ (LEVEL 2)  
 PERIOD: 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
 A STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 5/ 1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 2 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 3 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 4 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 5 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 6 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 7 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 8 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 9 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/10 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/11 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/12 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/13 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/14 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/15 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/16 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

5/ 1

5/ 2

5/ 3

5/ 4

5/ 5

5/ 6

5/ 7

5/ 8

5/ 9

5/10

5/11

5/12

5/13

5/14

5/15

5/16

3  
NW

4  
SE

2  
WSW

3  
EVE  
4  
SE  
2  
ESE  
2  
ESE  
3  
WNW  
2  
SSW  
3  
N  
2  
S

2  
NNE  
4  
WSW

2  
NE

4  
SSW

4  
WNW

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/02 (LEVEL 2)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
A STABILITY CLASS

|      |          |         |        |         |         |          |         |
|------|----------|---------|--------|---------|---------|----------|---------|
| 5/17 | 3<br>NNW | 3<br>NE | 2<br>N | 2<br>NW | 2<br>SE | 2<br>ENE | 5<br>NW |
| 5/18 | 4<br>NNW |         |        |         |         |          | 5<br>NW |
| 5/19 |          |         |        |         |         | 3<br>NNE |         |
| 5/20 |          |         |        |         |         |          |         |
| 5/21 |          |         |        |         |         |          |         |
| 5/22 |          |         |        |         |         |          |         |
| 5/23 |          |         |        |         |         |          |         |
| 5/24 |          |         |        |         |         |          |         |
| 5/25 |          |         |        |         |         |          |         |
| 5/26 |          |         |        |         |         |          |         |
| 5/27 |          |         |        |         |         |          |         |
| 5/28 |          |         |        |         |         |          |         |
| 5/29 |          |         |        |         |         |          |         |
| 5/30 |          |         |        |         |         |          |         |
| 5/31 |          |         |        |         |         |          |         |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
 PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
 H STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 5/ 1 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 2 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 3 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 4 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 5 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 6 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 7 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 8 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 9 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/10 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/11 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/12 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/13 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/14 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/15 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/16 |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
 STABILITY CLASS DETERMINATION USING DT/02 (LEVEL 2)  
 PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
 B STABILITY CLASS

|      |         |          |          |          |          |          |          |
|------|---------|----------|----------|----------|----------|----------|----------|
| 5/17 | 5<br>N  | 9<br>WSW | 8<br>WNW | 9<br>NNW | 8<br>WNW | 5<br>WNW | 7<br>WNW |
| 5/18 | 6<br>NW | 5<br>ENE |          | 12<br>NW |          |          |          |
| 5/19 |         |          | 9<br>SW  | 10<br>SW | 8<br>SW  | 6<br>SW  |          |
| 5/20 |         |          |          |          |          |          |          |
| 5/21 |         |          |          |          |          |          |          |
| 5/22 |         |          |          |          |          |          |          |
| 5/23 |         |          |          |          |          |          |          |
| 5/24 |         |          |          |          |          |          |          |
| 5/25 |         |          |          |          |          |          |          |
| 5/26 |         |          |          |          |          |          |          |
| 5/27 |         |          |          |          |          |          |          |
| 5/28 |         |          |          |          |          |          |          |
| 5/29 |         |          |          |          |          |          |          |
| 5/30 |         |          |          |          |          |          |          |
| 5/31 |         |          |          |          |          |          |          |



C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/02 (LEVEL 2)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

|      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8  | 9  | 10 | 11 | 12  | 13 | 14 | 15 | 16 | 17 | 18  | 19  | 20 | 21 | 22 | 23 | 24 |
|------|---|---|---|---|---|---|---|----|----|----|----|-----|----|----|----|----|----|-----|-----|----|----|----|----|----|
| 5/ 1 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     |     |    |    |    |    |    |
| 5/ 2 |   |   |   |   |   |   |   |    | 13 | 11 | 13 | 13  |    |    |    |    |    | 13  | 11  |    |    |    |    |    |
| 5/ 3 |   |   |   |   |   |   |   | 11 | SW | SW | SW | SW  |    |    |    |    |    | 13  | SW  |    |    |    |    |    |
| 5/ 4 |   |   |   |   |   |   |   | S  |    | 14 |    |     |    |    |    |    |    | S   | 13  |    |    |    |    |    |
| 5/ 5 |   |   |   |   |   |   |   |    | 12 | SW | 11 | 13  | 11 |    |    |    |    | 14  | WNW | 15 |    |    |    |    |
| 5/ 6 |   |   |   |   |   |   |   |    | NW | NW |    | WNW |    |    |    |    |    | WNW | NW  |    |    |    |    |    |
| 5/ 7 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    | 15  |     |    |    |    |    |    |
| 5/ 8 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     | SSW |    |    |    |    |    |
| 5/ 9 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     |     |    |    |    |    |    |
| 5/10 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     |     |    |    |    |    |    |
| 5/11 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     |     |    |    |    |    |    |
| 5/12 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     |     |    |    |    |    |    |
| 5/13 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     |     |    |    |    |    |    |
| 5/14 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     |     |    |    |    |    |    |
| 5/15 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     |     |    |    |    |    |    |
| 5/16 |   |   |   |   |   |   |   |    |    |    |    |     |    |    |    |    |    |     |     |    |    |    |    |    |

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/OZ (LEVEL 2)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
C STABILITY CLASS

12  
WSW  
13  
WNW

5/17  
5/18  
5/19  
5/20  
5/21  
5/22  
5/23  
5/24  
5/25  
5/26  
5/27  
5/28  
5/29  
5/30  
5/31

C-B SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DY/OZ (LEVEL 2)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
D STABILITY CLASS

|      | 1   | 2  | 3  | 4  | 5 | 6 | 7 | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19 | 20  | 21  | 22  | 23 | 24 |
|------|-----|----|----|----|---|---|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|----|----|
| 5/ 1 |     |    |    |    |   |   |   | 21  | 20  | 16  | 21  | 19  | 19  | 18  | 18  | 19  | 17  |     |    | 4   | ESE |     |    |    |
| 5/ 2 | WSW |    |    |    |   |   |   | SSW | SSW | SSW | SW  | SSW | SSW | SSW | SSW | SSW | SSW |     |    | NNE |     |     |    |    |
| 5/ 3 | 15  |    |    |    |   |   |   |     |     |     | 16  |     | 13  | 17  | 15  | 15  | 15  | 15  |    |     |     |     |    | 14 |
| 5/ 4 | S   |    | 16 |    |   |   |   | 17  |     |     | 19  | 20  | SSW | SSW | S   | S   | S   | S   |    |     | 17  | SSW |    | 17 |
| 5/ 5 | SSW | 12 | 12 |    |   |   |   | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW | SSW |    |     |     |     |    | 17 |
| 5/ 6 | WSW | 2  | 2  |    |   |   |   | 18  | 18  | 18  | 19  | 22  | 26  | 25  | 23  | 24  | 23  | 21  | 21 | 19  | 22  | 14  | 23 | 17 |
| 5/ 7 | SSW | 14 | 17 | 21 |   |   |   | 24  | 25  | 24  | 24  | 24  | 22  | 24  | 21  | 22  | 21  | 18  |    |     |     |     | 14 | S  |
| 5/ 8 |     |    |    |    |   |   |   | 15  | 16  | 19  | 17  | 15  | 17  | 21  | 22  | 23  | 21  | 19  |    |     |     |     |    |    |
| 5/ 9 |     |    | 16 |    |   |   |   |     |     |     | 15  | 15  | 17  | 16  | 16  | 16  | 16  | 16  |    |     |     |     |    | 18 |
| 5/10 | SSW |    |    |    |   |   |   | 15  | 15  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  |    |     |     |     |    | 18 |
| 5/11 |     |    |    |    |   |   |   | 17  | 17  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  |    |     |     |     |    | 18 |
| 5/12 |     |    |    |    |   |   |   | 17  | 17  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  |    |     |     |     |    | 18 |
| 5/13 |     |    |    |    |   |   |   | 17  | 17  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  |    |     |     |     |    | 18 |
| 5/14 | SSW |    |    |    |   |   |   | 17  | 17  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  |    |     |     |     |    | 18 |
| 5/15 |     |    |    |    |   |   |   | 17  | 17  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  |    |     |     |     |    | 18 |
| 5/16 |     |    |    |    |   |   |   | 17  | 17  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  |    |     |     |     |    | 18 |

HOURLY WIND AND DIRECTION  
D STABILITY CLASS

II B-1718

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
 STABILITY CLASS DETERMINATION USING DT/DZ (LEVEL 2)  
 PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
 E STABILITY CLASS

|      | 1 | 2         | 3         | 4         | 5         | 6         | 7         | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20      | 21        | 22        | 23        | 24      |
|------|---|-----------|-----------|-----------|-----------|-----------|-----------|---|---|----|----|----|----|----|----|----|----|----|----|---------|-----------|-----------|-----------|---------|
| 5/ 1 |   |           | 13<br>SSW | 2<br>SSW  | 9<br>SSE  | 5<br>S    | 10<br>SSW |   |   |    |    |    |    |    |    |    |    |    |    |         | 3<br>ENE  |           | 1<br>ESE  | 2<br>SW |
| 5/ 2 |   | 0<br>N    | 0<br>NNW  | 0<br>ESE  |           | 0<br>SSE  | 1<br>E    |   |   |    |    |    |    |    |    |    |    |    |    | 7<br>SW |           | 10<br>SSW | 13<br>SSW |         |
| 5/ 3 |   | 12<br>S   |           | 15<br>S   | 14<br>S   | 10<br>SSE | 9<br>S    |   |   |    |    |    |    |    |    |    |    |    |    |         | 12<br>SSE |           |           |         |
| 5/ 4 |   |           |           | 7<br>WSW  | 7<br>WSW  | 6<br>WSW  | 11<br>NW  |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           | 4<br>NW   |         |
| 5/ 5 |   |           |           | 2<br>NW   |           | 2<br>WSW  |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/ 6 |   | 14<br>S   |           |           |           |           |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/ 7 |   | 13<br>SSE | 13<br>SSE | 12<br>SSE | 12<br>SSE | 12<br>SSE |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/ 8 |   |           |           |           |           | 1<br>SW   |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/ 9 |   |           |           | 13<br>SSE | 11<br>SE  | 12<br>SSE |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/10 |   |           |           |           |           |           |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/11 |   |           |           |           | 3<br>SSE  | 5<br>SSE  | 4<br>SSE  |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/12 |   |           | 12<br>SSE |           | 1<br>SSW  | 4<br>S    |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/13 |   | 10<br>SSE | 11<br>SSE | 5<br>SSW  | 6<br>SSW  | 2<br>SSE  |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/14 |   |           | 7<br>SSW  |           |           |           |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/15 |   |           |           |           |           |           |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |
| 5/16 |   | 9<br>SSE  |           |           |           |           |           |   |   |    |    |    |    |    |    |    |    |    |    |         |           |           |           |         |



## HOURLY WIND AND DIRECTION E STABILITY CLASS

517

518

519

5/28

5/21

5/22

5/25

5/24

5/25

5/25

5/27

5/29

5/29

5/38

5/31



SS MS MN MN

25  
23

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING OT/OZ (LEVEL 2)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
F STABILITY CLASS

|       | 1 | 2   | 3   | 4   | 5   | 6   | 7   | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------|---|-----|-----|-----|-----|-----|-----|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 5/ 1  |   | 9   | 12  |     |     |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 2  |   | SSW | SSW |     |     |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 3  |   |     |     |     | 1   |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 4  |   |     |     |     | ESE |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 5  |   |     |     |     |     |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 6  |   |     |     |     |     |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 7  |   |     |     |     |     |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 8  |   | 1   | 2   |     | 5   |     | 2   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 9  |   | WNW | W   | SE  | SSE | SSW | SSW |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 10 |   | 10  | 13  |     |     |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 11 |   | S   | S   |     |     |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 12 |   | 4   | 1   | 2   | 2   |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 13 |   | SSW | S   | SSE | S   |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 14 |   | 2   | 11  | 5   | 5   |     | 4   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 15 |   | SE  | S   | SSW | 7   |     | S   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5/ 16 |   |     |     |     | SSE |     |     |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

10  
SW

3  
SSW  
WNW  
7  
S

6  
SSW  
SW  
SSW  
8  
S  
SSW  
SSE

C-8 SHALE OIL PROJECT METEOROLOGICAL TOWER SITE  
STABILITY CLASS DETERMINATION USING DT/02 (LEVEL 2)  
PERIOD( 5/ 1/77 TO 5/31/77)

HOURLY WIND AND DIRECTION  
F STABILITY CLASS

5/17

5/18

5/19

5/20

5/21

5/22

5/23

5/24

5/25

5/26

5/27

5/28

5/29

5/30

5/31

1 3  
SW SSW

APPENDIX A  
STABILITY WIND ROSE DIAGRAMS

APPENDIX A  
STABILITY WIND ROSE DIAGRAMS

According to the data presented in AEC Safety Guide No. 23, the relationships between stability classes and  $\sigma_\theta$  are as follows (the values shown are averages for each stability classification... $\sigma_\theta$  is the standard deviation of horizontal wind direction fluctuations).

| <u>Stability<br/>Classification</u> | <u>Pasquill<br/>Categories</u> | <u>Average Values<br/><math>\sigma_\theta</math><br/>(degrees)</u> |
|-------------------------------------|--------------------------------|--|
| Extremely Unstable                  | A                              | 25.0°  |
| Moderately Unstable                 | B                              | 20.0°  |
| Slightly Unstable                   | C                              | 15.0°  |
| Neutral                             | D                              | 10.0°  |
| Slightly Stable                     | E                              | 5.0°   |
| Moderately Stable                   | F                              | 2.5°   |

Stability wind roses obtained at the trailers in the monitoring network are displayed in the following tables. Because of the relatively low heights above the surface (9 meters) at which the wind data is taken, the stability distributions are skewed toward the unstable end of the spectrum. That is, the unstable classes (A, B, and C) have a much higher frequency of occurrence than would be obtained with the Pasquill method of stability categorization (or with instruments at higher levels).

Table 1 depicts the frequency distribution of Pasquill stability categories based on  $\sigma_\theta$  from data collected by M. M. Pendergast and T. V. Crawford at the Savannah River Plant ("Actual Standard Deviations of Vertical and Horizontal Wind Direction Compared to Estimates from Other Measurements", Symposium on Atmospheric Diffusion and Air Pollution, September 9-13, 1974). Three distinct range patterns of stability class



distributions were observed: low, mid, and high, according to the height at which the  $\sigma_\theta$  measurements were taken.

TABLE 1  
FREQUENCY DISTRIBUTION OF PASQUILL STABILITY CATEGORIES

| Height,<br>m | Stability Categories based on $\sigma_\theta$ |                                   |                                   |                                  |                                 |                                 |                          |            |
|--------------|---|-----------------------------------|-----------------------------------|----------------------------------|---------------------------------|---------------------------------|--------------------------|------------|
|              | A<br>$\sigma_\theta > 23$                     | B<br>$18 \leq \sigma_\theta < 23$ | C<br>$13 \leq \sigma_\theta < 18$ | D<br>$8 \leq \sigma_\theta < 13$ | E<br>$4 \leq \sigma_\theta < 8$ | F<br>$2 \leq \sigma_\theta < 4$ | G<br>$\sigma_\theta < 2$ |            |
| 10           | 22.6  | 13.9                              | 21.2                              | 23.9                             | 8.9                             | 0.4                             | 3.5                      | LOW RANGE  |
| 35           | 19.3  | 11.3                              | 19.4                              | 32.4                             | 15.9                            | 0.7                             | 0.5                      |            |
| 91           | 9.6   | 6.7                               | 13.5                              | 21.7                             | 29.5                            | 15.4                            | 2.5                      | MID RANGE  |
| 137          | 9.3   | 5.3                               | 11.7                              | 20.8                             | 28.5                            | 13.4                            | 5.5                      |            |
| 182          | 7.0   | 2.9                               | 6.8                               | 17.1                             | 25.9                            | 25.5                            | 14.7                     | HIGH RANGE |
| 243          | 7.7   | 4.3                               | 9.4                               | 17.7                             | 27.5                            | 22.9                            | 10.4                     |            |
| 304          | 7.2   | 3.7                               | 8.0                               | 17.2                             | 23.7                            | 23.9                            | 11.3                     |            |

Also, Figure 1 (from D. H. Slade, Meteorology and Atomic Energy, 1968, p. 52) demonstrates that the line representing very stable conditions (which by their nature are associated with light winds) branches into three separate lines near the ground. The curve at the left represents the smallest values of  $\sigma_\theta$  usually observed. The curve that branches off to the right reflects the contribution of very low-level wind direction meander to the total standard deviation. These meandering oscillations decrease in amplitude very rapidly with height under stable conditions. The central curve represents typical inversion conditions. Actually, for a given stability condition, values of  $\sigma_\theta$  will always be greater when the wind is light than when it is strong. This phenomena is most noticeable in the lowest layers.

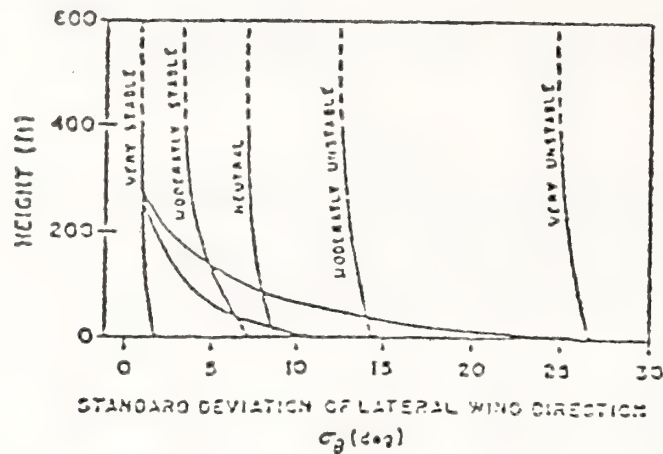


FIGURE 1

The vertical variation of the lateral wind-direction standard deviation ( $\sigma_\theta$ ) for various stability regimes. The curves represent average or typical conditions with the exception of the two outer "very stable" lines, which represent extremes.

The large surface values of  $\sigma_\theta$  for unstable conditions do not decrease very rapidly with height. As in the case of very stable conditions, the greatest lateral fluctuations during a very unstable thermal structure occur with very light winds. As a general rule, for a given insolation condition, increasing wind speeds are associated with profiles of  $\sigma_\theta$  that tend toward neutral stability.

The majority of the trailers in the network recorded very light winds throughout the month. Therefore, the stability distributions had a predominance of high  $\sigma_\theta$  values and, hence, unstable classifications. Those trailers with the highest average winds (and fewest nearby obstacles to the flow) generally had the more reasonable and representative low-level stability class distributions.

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 8 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - A

| GROUP MAX SPEED<br>MPH | N | NNE | NE | ENE | E  | ESE | SE | WIND DIRECTION |    |     |    |     |    |     |    | NW | NNW | TOTAL | %      |
|------------------------|---|-----|----|-----|----|-----|----|----------------|----|-----|----|-----|----|-----|----|----|-----|-------|--------|
|                        | 9 | 6   | 7  | 8   | 7  | 10  | 13 | SSW            | S  | SSW | SW | WSW | W  | WNW | NW |    |     |       |        |
| GT 24                  | : |     |    |     |    |     |    |                | 1  |     |    |     |    |     |    |    |     | :     | 1 0    |
| 18 - 24                | : |     |    |     |    |     |    | 1              | 1  |     |    | 1   |    |     |    |    |     | :     | 3 1    |
| 12 - 18                | : |     |    |     |    |     | 1  |                | 0  | 1   | 1  | 0   |    |     |    |    |     | :     | 3 1    |
| 7 - 12                 | : | 6   | 2  | 1   | 1  | 2   | 1  | 3              | 9  | 13  | 13 | 4   | 6  | 4   | 7  | 3  |     | :     | 75 14  |
| 3 - 7                  | : | 28  | 8  | 5   | 7  | 7   | 3  | 10             | 10 | 9   | 16 | 11  | 11 | 24  | 19 | 19 |     | :     | 205 39 |
| LT 3                   | : | 18  | 20 | 15  | 20 | 12  | 13 | 10             | 24 | 10  | 17 | 9   | 16 | 20  | 10 | 9  |     | :     | 245 46 |
| TOTAL                  | : | 52  | 30 | 21  | 28 | 21  | 18 | 23             | 44 | 35  | 47 | 25  | 33 | 48  | 36 | 31 |     | :     | 532    |
| PERCENT                | : | 10  | 6  | 4   | 5  | 4   | 3  | 4              | 8  | 7   | 9  | 5   | 6  | 9   | 7  | 6  |     | :     | 100    |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 86( 16.17 %)

# STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT

LEVEL = 8 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - B

| GROUP MAX SPEED<br>MPH | GT | 24 | : | WIND DIRECTION |     |    |     |    |     |    |     |    |     |     |     | NNW | NW  | TOTAL | X            |
|------------------------|----|----|---|----------------|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|-------|--------------|
|                        |    |    |   | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW  | WSW | W   | WNW |       |              |
|                        |    |    |   | 10             | 8   | 5  | 6   | 5  | 4   | 7  | 14  | 16 | 20  | 20  | 15  | 12  | 12  | 10    |              |
|                        |    |    |   |                |     |    |     |    |     |    |     |    | 4   | 1   |     |     |     |       | 0.           |
| 18 -                   |    | 24 | : |                |     |    |     |    |     |    | 2   | 10 | 27  | 11  | 5   | 1   | 2   | 1     | 59 13.       |
| 12 -                   |    | 18 | : |                |     |    |     |    |     |    | 4   | 10 | 28  | 29  | 12  | 4   | 10  | 15    | 13 : 140 31. |
| 7 -                    |    | 12 | : | 11             | 2   |    |     |    |     | 2  | 8   | 5  | 4   | 14  | 13  | 6   | 5   | 17    | 10 : 136 30. |
| 3 -                    |    | 7  | : | 8              | 10  | 12 | 5   | 7  | 2   | 8  | 5   | 4  | 14  | 13  | 6   | 5   | 10  | 17    | 5 : 116 25.  |
| LT                     |    | 3  | : | 6              | 5   | 12 | 15  | 10 | 14  | 4  | 6   | 3  | 4   | 4   | 4   | 11  | 7   | 6     |              |
| TOTAL                  |    |    | : | 25             | 17  | 24 | 20  | 17 | 16  | 14 | 17  | 27 | 77  | 58  | 27  | 21  | 29  | 39    | 28 : 456     |
| PERCENT                |    |    | : | 5.             | 4.  | 5. | 4.  | 4. | 4.  | 3. | 4.  | 6. | 17. | 13. | 6.  | 5.  | 6.  | 9.    | 6. : 100.    |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 39( 8.55 %)

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
LEVEL = 8 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS = C

| GROUP MAX SPEED<br>MPH | WIND DIRECTION |     |    |     |    |     |    |     |     |     |     |     |    |     |    |     |  | TOTAL | %   |    |
|------------------------|----------------|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|----|-----|--|-------|-----|----|
|                        | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S   | SSW | SW  | WSW | W  | WNW | NW | NNW |  |       |     |    |
| GT 24                  | 11             | 10  | 8  | 9   | 5  | 13  | 16 | 21  | 27  | 1   | 10  |     |    |     | 15 | 16  |  | 11    | 1.  |    |
| 18 - 24                |                |     |    |     |    |     |    | 3   | 22  | 83  | 18  | 1   |    |     |    |     |  |       | 127 | 7. |
| 12 - 18                |                |     |    |     |    |     |    |     |     |     |     |     |    |     |    |     |  |       |     |    |
| 7 - 12                 | 24             | 8   | 1  | 1   |    | 1   | 5  | 19  | 71  | 204 | 126 | 27  | 6  | 4   | 15 | 5   |  | 483   | 28. |    |
| 3 - 7                  | 14             | 29  | 20 | 19  | 9  | 13  | 22 | 25  | 27  | 20  | 29  | 19  | 17 | 33  | 42 | 28  |  | 516   | 30. |    |
| LT 3                   | 9              | 17  | 13 | 16  | 19 | 20  | 12 | 21  | 19  | 35  | 10  | 16  | 9  | 11  | 11 | 7   |  | 245   | 14. |    |
| TOTAL                  | 47             | 54  | 34 | 36  | 28 | 36  | 45 | 104 | 197 | 450 | 313 | 96  | 48 | 67  | 95 | 51  |  | 1702  |     |    |
| PERCENT                | 3.             | 3.  | 2. | 2.  | 2. | 2.  | 3. | 6.  | 12. | 28. | 18. | 6.  | 3. | 4.  | 6. | 3.  |  | 100.  |     |    |

II B-1727

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 53( 3.11 %)



# STABILITY WIND ROSE DIAGRAM

LEVEL = 8 FEET PERIOD( 5/ 1/77 TO 5/31/77)

| STABILITY CLASS & D |    | WIND DIRECTION |     |    |     |    |     |     |     |     |     |     |     |    |     |    |     | TOTAL |
|---------------------|----|----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|-----|-------|
|                     |    | N              | NNE | NE | ENE | E  | ESE | SE  | SSE | S   | SSW | SW  | WSW | W  | WNW | NW | NNW | TOTAL |
| GROUP MAX SPEED     |    | 17             | 12  | 9  | 7   | 7  | 11  | 13  | 20  | 30  | 31  | 26  | 21  | 17 | 12  | 16 | 16  | %     |
| MPH                 |    |                |     |    |     |    |     |     |     |     |     |     |     |    |     |    |     |       |
| GT                  | 24 | 1              |     |    |     |    |     |     |     | 19  | 19  | 1   |     |    |     |    |     | 39    |
| 18 "                | 24 | 1              |     |    |     |    |     |     | 5   | 69  | 153 | 25  | 3   |    |     |    |     | 255   |
| 12 "                | 18 | 1              | 4   | 1  |     |    | 6   | 30  | 191 | 348 | 202 | 23  | 11  | 3  | 11  | 4  | 4   | 834   |
| 7 "                 | 12 | 1              | 13  | 7  | 1   | 1  | 2   | 17  | 81  | 127 | 162 | 160 | 30  | 9  | 19  | 45 | 41  | 724   |
| 3 "                 | 7  | 1              | 28  | 32 | 26  | 9  | 24  | 65  | 133 | 115 | 100 | 152 | 45  | 22 | 28  | 30 | 22  | 855   |
| LT                  | 3  | 1              | 16  | 20 | 29  | 41 | 31  | 48  | 48  | 55  | 66  | 129 | 33  | 27 | 13  | 11 | 5   | 610   |
| TOTAL               |    | 1              | 61  | 60 | 56  | 51 | 57  | 136 | 297 | 576 | 848 | 669 | 134 | 69 | 63  | 97 | 72  | 3317  |
| PERCENT             |    | 1              | 2   | 2  | 2   | 2  | 2   | 4   | 9   | 17  | 26  | 20  | 4   | 2  | 2   | 3  | 2   | 100   |

II B-1728

| TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE | %      |
|---|--------|
| 1056                                    | 3.17 % |

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
LEVEL = 8 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS = E

| GROUP   | MAX SPEED<br>MPH | N  | NNE | NE | ENE | E  | ESE | SE | SSE | WIND DIRECTION |     |     |     | WSW | W  | WNW | NW  | NNW | TOTAL | % |
|---------|------------------|----|-----|----|-----|----|-----|----|-----|----------------|-----|-----|-----|-----|----|-----|-----|-----|-------|---|
|         |                  |    |     |    |     |    |     |    |     | S              | SSW | SW  | SSW |     |    |     |     |     |       |   |
| GT      | 24               | 1  |     |    |     |    |     |    |     | 7              | 12  | 1   |     |     |    |     |     |     | 20    | 1 |
| 18 -    | 24               | 1  |     |    |     |    |     |    |     | 27             | 35  | 9   |     | 1   |    |     |     |     | 73    | 3 |
| 12 -    | 18               | 1  |     |    |     |    |     |    |     |                |     |     |     |     |    |     |     |     |       |   |
| 7 -     | 12               | 1  |     |    |     |    |     |    |     |                |     |     |     |     |    |     |     |     |       |   |
| 3 -     | 7                | 1  |     |    |     |    |     |    |     |                |     |     |     |     |    |     |     |     |       |   |
| LT      | 3                | 1  |     |    |     |    |     |    |     |                |     |     |     |     |    |     |     |     |       |   |
| TOTAL   |                  | 99 | 25  | 15 | 27  | 34 | 39  | 99 | 175 | 501            | 424 | 641 | 128 | 74  | 67 | 134 | 124 | 124 | 2606  |   |
| PERCENT |                  | 4  | 1   | 1  | 1   | 1  | 1   | 4  | 7   | 19             | 16  | 25  | 5   | 3   | 3  | 5   | 5   | 5   | 100   |   |

II B-1729

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 146( 5.60 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 8 FEET PERIOD: 5/1/77 TO 5/31/77

STABILITY CLASS - TOTAL

| GROUP MAX SPEED<br>MPH | N   | NNE | NE  | ENE | E   | ESE | SE  | WIND DIRECTION |      |      |      |    | WSW | W   | WNW | NW  | NNW | TOTAL | %   |
|------------------------|-----|-----|-----|-----|-----|-----|-----|----------------|------|------|------|----|-----|-----|-----|-----|-----|-------|-----|
|                        | 18  | 12  | 9   | 9   | 7   | 13  | 16  | SSE            | S    | SSW  | SW   | 26 | 21  | 21  | 15  | 17  | 16  |       |     |
| GT 24                  | 1   |     |     |     |     |     |     | 27             | 42   | 2    |      |    |     |     |     |     |     | 71    | 100 |
| 18 - 24                | 1   |     |     |     |     |     |     | 8              | 119  | 276  | 53   |    | 5   | 1   |     |     |     | 463   | 50  |
| 12 - 18                | 4   | 2   |     |     |     | 1   | 14  | 54             | 348  | 660  | 420  |    | 63  | 22  | 12  | 41  | 15  | 1656  | 190 |
| 7 - 12                 | 77  | 21  | 13  | 3   | 2   | 6   | 30  | 140            | 346  | 368  | 393  |    | 92  | 42  | 82  | 153 | 133 | 1901  | 220 |
| 3 - 7                  | 122 | 96  | 69  | 62  | 38  | 57  | 126 | 268            | 328  | 263  | 468  |    | 142 | 79  | 105 | 141 | 100 | 2464  | 290 |
| LT 3                   | 77  | 76  | 91  | 95  | 118 | 106 | 146 | 153            | 181  | 232  | 404  |    | 111 | 100 | 74  | 66  | 58  | 2088  | 240 |
| TOTAL                  | 281 | 195 | 173 | 160 | 158 | 170 | 316 | 623            | 1349 | 1841 | 1740 |    | 413 | 244 | 273 | 401 | 306 | 8643  |     |
| PERCENT                | 3.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 4.0 | 7.7            | 16.1 | 21.2 | 20.1 |    | 5.0 | 3.0 | 3.0 | 5.0 | 4.0 | 100.0 |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 429 ( 4.96 % )

|                 |             |         |
|-----------------|-------------|---------|
| PERCENTAGE OF A | STABILITY = | 6.16 %  |
| PERCENTAGE OF B | STABILITY = | 5.28 %  |
| PERCENTAGE OF C | STABILITY = | 19.69 % |
| PERCENTAGE OF D | STABILITY = | 38.38 % |
| PERCENTAGE OF E | STABILITY = | 30.15 % |

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
LEVEL = 30 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - A

| GROUP MAX SPEED<br>MPH | N | NNE | NE | ENE | E  | ESE | SE | SSE | WIND DIRECTION |     |    |     |    |     |    |     | NNW | NW  | TOTAL | %  |
|------------------------|---|-----|----|-----|----|-----|----|-----|----------------|-----|----|-----|----|-----|----|-----|-----|-----|-------|----|
|                        |   |     |    |     |    |     |    |     | S              | SSW | SW | WSW | W  | WNW | NW | NNE |     |     |       |    |
| GT 24                  | 1 |     |    |     |    |     |    |     | 1              | 2   |    |     |    |     |    |     |     | 1   | 3     | 1  |
| 18 - 24                | 1 |     |    |     |    |     |    |     | 0              | 0   |    |     |    |     |    |     |     | 1   | 0     | 0  |
| 12 - 18                | 1 |     |    |     |    | 1   |    | 1   | 4              | 0   |    |     | 1  | 2   |    |     | 1   | 1   | 10    | 3  |
| 7 - 12                 | 1 | 7   | 1  | 3   |    | 2   | 3  | 1   | 4              | 8   | 7  | 3   | 4  | 3   | 9  | 6   | 6   | 1   | 61    | 20 |
| 3 - 7                  | 1 | 15  | 7  | 5   | 8  | 4   | 9  | 6   | 13             | 10  | 11 | 8   | 10 | 16  | 10 | 10  | 9   | 1   | 147   | 48 |
| LT 3                   | 1 | 1   | 4  | 9   | 8  | 9   | 7  | 4   | 8              | 5   | 5  | 4   | 4  | 4   | 5  | 1   | 1   | 1   | 85    | 28 |
| TOTAL                  | 1 | 23  | 12 | 17  | 16 | 13  | 19 | 12  | 30             | 25  | 23 | 15  | 19 | 25  | 24 | 17  | 1   | 306 |       |    |
| PERCENT                | 1 | 8   | 4  | 6   | 5  | 4   | 6  | 4   | 10             | 8   | 8  | 5   | 6  | 8   | 8  | 6   | 6   | 100 |       |    |

II B-1731

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 80 2.61 %

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL # 30 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - B

| STABILITY CLASS | GROUP | MAX SPEED<br>MPH | WIND DIRECTION |     |     |   |     |    |     |   |     |    |     |   |     |    |     |  | NNW | NW | TOTAL | % |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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|                 |       |                  | N              | NNE | NNE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW |  |     |    |       |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                 | GT    | 24               | :              |     |     |   |     |    |     |   |     |    |     |   |     |    |     |  |     |    |       |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE \* 4( 1.64 %)



STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
LEVEL = 30 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS = C

| GROUP MAX SPEED<br>MPH | N  | NNE | NE | ENE | E  | ESE | SE | WIND DIRECTION |     |     |     | WSW | W  | WNW | NW | NNW | TOTAL | %   |
|------------------------|----|-----|----|-----|----|-----|----|----------------|-----|-----|-----|-----|----|-----|----|-----|-------|-----|
|                        |    |     |    |     |    |     |    | SSE            | S   | SSW | SW  |     |    |     |    |     |       |     |
| GT 24                  | 14 | 8   | 12 | 6   | 9  | 8   | 18 | 17             | 27  | 34  | 26  | 18  | 18 | 15  | 16 | 14  |       |     |
| 18 - 24                |    |     |    |     |    |     | 1  |                | 18  | 43  | 13  | 2   | 1  |     |    |     | 13    | 2.  |
| 12 - 18                | 3  |     |    |     |    |     | 3  | 14             | 38  | 84  | 35  | 7   | 7  | 8   | 13 | 7   | 78    | 10. |
| 7 - 12                 | 14 | 8   | 5  |     | 1  | 3   | 6  | 13             | 12  | 30  | 29  | 12  | 14 | 22  | 34 | 29  | 219   | 28. |
| 3 - 7                  | 12 | 11  | 14 | 13  | 14 | 8   | 6  | 9              | 7   | 9   | 8   | 15  | 9  | 13  | 7  | 7   | 232   | 30. |
| LT 3                   | 2  | 3   | 9  | 6   | 6  | 5   | 3  | 7              | 4   | 4   | 5   | 5   | 8  | 5   | 3  | 4   | 79    | 10. |
| TOTAL                  | 31 | 22  | 28 | 19  | 21 | 14  | 19 | 43             | 82  | 179 | 91  | 41  | 39 | 48  | 57 | 47  | 781   |     |
| PERCENT                | 4. | 3.  | 4. | 2.  | 3. | 2.  | 2. | 6.             | 10. | 23. | 12. | 5.  | 5. | 6.  | 7. | 6.  | 100.  |     |

II B-1755

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 7 ( 0.90 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT

LEVEL 1 = 30 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - D

| GROUP MAX SPEED<br>MPH | N  | NNE | NE | ENE | E  | ESE | SE  | WIND DIRECTION |     |     |     |     |    |     |     | WNW | NW | NNW | TOTAL | %   |
|------------------------|----|-----|----|-----|----|-----|-----|----------------|-----|-----|-----|-----|----|-----|-----|-----|----|-----|-------|-----|
|                        | 13 | 10  | 9  | 11  | 10 | 16  | 21  | SSE            | S   | SSW | SW  | WSW | W  | WNW | NW  | NNW |    |     |       |     |
| GT 24 :                |    |     |    |     |    |     |     | 4              | 71  | 73  | 10  | 1   |    |     |     |     |    |     | 159   | 6.  |
| 18 - 24 :              |    |     |    |     |    |     | 5   | 18             | 165 | 254 | 78  | 6   | 2  | 4   | 3   | 2   |    | 2   | 537   | 21. |
| 12 - 18 :              | 5  |     |    |     |    | 2   | 23  | 61             | 132 | 260 | 150 | 22  | 8  | 30  | 47  | 19  |    | 19  | 759   | 29. |
| 7 - 12 :               | 18 | 12  | 11 | 3   | 4  | 5   | 26  | 27             | 45  | 103 | 74  | 28  | 22 | 47  | 45  | 29  |    | 29  | 499   | 19. |
| 3 - 7 :                | 39 | 22  | 28 | 22  | 20 | 27  | 40  | 32             | 38  | 54  | 62  | 33  | 38 | 21  | 19  | 17  |    | 17  | 512   | 20. |
| LT 3 :                 | 2  | 3   | 8  | 12  | 10 | 8   | 6   | 7              | 15  | 10  | 11  | 8   | 7  | 4   | 4   | 2   |    | 2   | 117   | 5.  |
| TOTAL :                | 64 | 37  | 47 | 37  | 34 | 42  | 100 | 149            | 466 | 754 | 385 | 98  | 77 | 106 | 118 | 69  |    | 69  | 2583  |     |
| PERCENT :              | 2. | 1.  | 2. | 1.  | 1. | 2.  | 4.  | 6.             | 18. | 29. | 15. | 4.  | 3. | 4.  | 5.  | 3.  |    | 3.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =

5( 0.19 %)

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT

LEVEL = 30 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - E

| GROUP   | MAX SPEED<br>MPH | N   | NNE | NE | ENE | E  | ESE | SE  | SSE | WIND DIRECTION |     |     |     | WSW | W   | WNW | NW  | NNW | TOTAL | %   |
|---------|------------------|-----|-----|----|-----|----|-----|-----|-----|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
|         |                  | 25  | 12  | 14 | 10  | 8  | 18  | 19  | 27  | S              | SSW | SW  | 29  | 26  | 22  | 21  | 22  | 16  |       |     |
| GT      | 24               | 1   |     |    |     |    |     |     | 9   | 91             | 71  | 10  | 1   |     |     |     |     |     | 183   | 4.  |
| 18 -    | 24               | 3   |     |    |     |    | 1   | 3   | 27  | 181            | 171 | 83  | 13  |     | 1   | 5   | 8   |     | 496   | 12. |
| 12 -    | 18               | 18  | 1   | 2  |     |    | 3   | 19  | 112 | 201            | 182 | 139 | 19  | 19  | 11  | 30  | 51  | 27  | 815   | 19. |
| 7 -     | 12               | 43  | 20  | 15 | 5   | 1  | 13  | 67  | 284 | 207            | 193 | 90  | 27  | 18  | 18  | 39  | 60  | 41  | 1123  | 26. |
| 3 -     | 7                | 50  | 17  | 33 | 52  | 46 | 59  | 101 | 163 | 141            | 224 | 227 | 68  | 54  | 54  | 50  | 37  | 50  | 1372  | 32. |
| LT      | 3                | 6   | 6   | 11 | 12  | 12 | 13  | 32  | 28  | 30             | 41  | 46  | 18  | 16  | 16  | 9   | 10  | 11  | 301   | 7.  |
| TOTAL   |                  | 121 | 44  | 61 | 69  | 59 | 89  | 222 | 623 | 851            | 882 | 595 | 146 | 100 | 100 | 133 | 166 | 129 | 4290  |     |
| PERCENT |                  | 3.  | 1.  | 1. | 2.  | 1. | 2.  | 5.  | 15. | 20.            | 21. | 14. | 3.  | 2.  | 2.  | 3.  | 4.  | 3.  | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 10 ( 0.23 %)

# STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
 LEVEL 1 - 30 FEET PERIOD( 5/ 1/77 TO 5/31/77)

| STABILITY CLASS - TOTAL                   |    | WIND DIRECTION |     |     |     |     |     |     |     |      |      |      |     | TOTAL |     | %   |             |
|---|----|----------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|-----|-------|-----|-----|-------------|
| GROUP MAX SPEED                           |    | N              | NNE | ENE | E   | ESE | SE  | SSE | S   | SSW  | SW   | WSW  | W   | WNW   | NW  | NNW | %           |
| MPH                                       |    | 25             | 12  | 14  | 11  | 10  | 18  | 21  | 27  | 38   | 29   | 26   | 22  | 21    | 22  | 21  | %           |
| GT  | 24 | 1              |     |     |     |     |     | 13  | 166 | 155  | 21   | 2    |     |       |     |     | 358         |
| 18 -                                      | 24 | 3              |     |     |     | 1   | 9   | 46  | 364 | 470  | 174  | 21   | 4   | 9     | 11  | 2   | 1114        |
| 12 -                                      | 18 | 26             | 1   | 2   |     | 6   | 45  | 190 | 381 | 537  | 333  | 53   | 27  | 71    | 112 | 57  | 1841        |
| 7 -                                       | 12 | 86             | 45  | 35  | 9   | 7   | 25  | 102 | 330 | 273  | 346  | 206  | 77  | 115   | 158 | 112 | 1990        |
| 3 -                                       | 7  | 122            | 64  | 88  | 101 | 88  | 100 | 162 | 213 | 199  | 303  | 313  | 128 | 109   | 82  | 91  | 2280        |
| LT  | 3  | 15             | 18  | 39  | 46  | 41  | 38  | 52  | 48  | 60   | 64   | 72   | 40  | 25    | 25  | 21  | 643         |
| TOTAL                                     |    | 253            | 128 | 164 | 156 | 136 | 170 | 370 | 840 | 1443 | 1875 | 1119 | 321 | 329   | 388 | 283 | 8226        |
| PERCENT                                   |    | 3              | 2   | 2   | 2   | 2   | 2   | 4   | 10  | 18   | 23   | 14   | 3   | 4     | 5   | 3   | 100         |
| TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - |    |                |     |     |     |     |     |     |     |      |      |      |     |       |     |     | 34( 0.41 %) |

II B-1736

|                 |             |         |
|-----------------|-------------|---------|
| PERCENTAGE OF A | STABILITY - | 3.72 %  |
| PERCENTAGE OF B | STABILITY - | 2.97 %  |
| PERCENTAGE OF C | STABILITY - | 9.49 %  |
| PERCENTAGE OF D | STABILITY - | 31.40 % |
| PERCENTAGE OF E | STABILITY - | 52.15 % |

STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 100 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - A

| GROUP MAX SPEED<br>MPH | WIND DIRECTION |     |    |     |    |     |    |     |    |     |    |     |    |     |    |    | NW | NNW | TOTAL | % |
|------------------------|----------------|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|----|----|-----|-------|---|
|                        | N              | NNE | NE | ENE | E  | ESE | SE | SSE | S  | SSW | SW | WSW | W  | WNW | NW |    |    |     |       |   |
| GT 24                  | 1              |     |    |     |    |     | 1  |     | 1  |     |    |     |    |     |    | 1  | 2  | 1   |       |   |
| 18 - 24                | 1              |     |    |     |    |     | 0  |     | 0  |     |    |     | 1  |     |    |    |    | 1   | 0     |   |
| 12 - 18                | 1              |     |    | 1   |    |     | 1  | 1   | 1  | 1   | 1  | 1   | 0  | 1   | 1  | 1  |    | 8   | 3     |   |
| 7 - 12                 | 1              | 7   | 2  | 1   | 0  | 1   | 1  | 5   | 2  | 2   | 6  | 3   | 5  | 1   | 10 | 4  |    | 51  | 19    |   |
| 3 - 7                  | 1              | 9   | 9  | 3   | 5  | 8   | 5  | 6   | 9  | 9   | 5  | 5   | 5  | 15  | 9  | 5  |    | 117 | 43    |   |
| LT 3                   | 1              | 1   | 4  | 5   | 10 | 12  | 7  | 17  | 8  | 5   | 5  | 5   | 3  | 4   | 3  | 2  |    | 95  | 35    |   |
| TOTAL                  | 17             | 18  | 8  | 11  | 19 | 23  | 28 | 15  | 20 | 18  | 17 | 14  | 14 | 21  | 23 | 11 | 1  | 274 |       |   |
| PERCENT                | 6              | 5   | 3  | 4   | 7  | 8   | 10 | 5   | 7  | 7   | 6  | 5   | 5  | 8   | 8  | 4  |    | 100 |       |   |

II B-1737

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 13( 4,74 %)



# STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT

LEVEL = 100 FEET PERIOD ( 5/ 1/77 TO 5/31/77)

STABILITY CLASS = B

| GROUP MAX SPEED<br>MPH | N  | NNE | NE | ENE | E  | ESE | SE | WIND DIRECTION |    |     |    |     |    |     |     | NNW | NW | TOTAL | %      |
|------------------------|----|-----|----|-----|----|-----|----|----------------|----|-----|----|-----|----|-----|-----|-----|----|-------|--------|
|                        | 12 | 8   | 10 | 5   | 8  | 8   | 6  | SSE            | S  | SSW | SW | WSW | W  | WNW | 9   | 10  | 14 |       |        |
| GT 24                  | :  |     |    |     |    |     |    |                |    |     |    |     |    |     |     |     |    | :     | 0.     |
| 18 - 24                | :  |     |    |     |    |     |    |                | 1  |     |    |     |    |     |     |     |    | :     | 1.     |
| 12 - 18                | :  | 1   |    |     |    |     |    | 3              | 5  | 11  | 5  | 1   |    |     |     |     |    | :     | 28 14. |
| 7 - 12                 | :  | 5   | 2  | 3   | 2  | 1   |    | 2              | 3  | 6   | 8  | 3   | 4  | 3   | 11  | 11  | 3  | :     | 56 29. |
| 3 - 7                  | :  | 8   | 4  | 3   | 3  | 10  | 4  | 3              | 4  | 2   | 2  | 4   | 2  | 3   | 11  | 11  | 4  | :     | 71 36. |
| LT 3                   | :  | 1   | 4  | 2   | 3  | 4   | 2  | 3              | 3  | 1   | 0  | 2   | 1  | 4   | 5   | 5   | 3  | :     | 39 20. |
| TOTAL                  | :  | 15  | 10 | 8   | 6  | 16  | 7  | 5              | 11 | 20  | 15 | 10  | 7  | 10  | 27  | 27  | 12 | :     | 195    |
| PERCENT                | :  | 8.  | 5. | 4.  | 3. | 8.  | 4. | 3.             | 6. | 10. | 8. | 5.  | 4. | 5.  | 14. | 14. | 6. | :     | 100.   |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE =

5 ( 2.56 % )

# STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT

LEVEL = 100 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS " C

| GROUP MAX SPEED<br>MPH | N | NNE | NE | ENE | E  | ESE | SE | WIND DIRECTION |    |     |    |     |    |     |  | NNW | NW | TOTAL | %  |
|------------------------|---|-----|----|-----|----|-----|----|----------------|----|-----|----|-----|----|-----|--|-----|----|-------|----|
|                        |   |     |    |     |    |     |    | SSE            | S  | SSW | SW | WSW | W  | WNW |  |     |    |       |    |
| GT 24                  | 1 |     |    |     |    |     |    | 4              | 12 | 1   |    |     |    |     |  | 1   | 17 | 3     |    |
| 18 - 24                | 1 |     |    |     |    |     | 1  | 4              | 7  | 25  | 11 | 2   |    | 1   |  |     |    | 51    | 9  |
| 12 - 18                | 1 | 1   |    |     |    |     | 3  | 10             | 25 | 30  | 26 | 8   | 2  | 8   |  | 8   | 12 | 134   | 24 |
| 7 - 12                 | 1 | 15  | 5  | 4   |    | 2   | 0  | 10             | 13 | 17  | 18 | 12  | 13 | 23  |  | 26  | 18 | 176   | 32 |
| 3 - 7                  | 1 | 9   | 10 | 12  | 11 | 4   | 6  | 11             | 5  | 7   | 6  | 4   | 7  | 10  |  | 10  | 2  | 122   | 22 |
| LT 3                   | 1 | 4   | 1  | 4   | 3  | 8   | 4  | 4              | 4  | 2   | 5  | 3   | 5  | 6   |  | 0   | 4  | 57    | 10 |
| TOTAL                  | 1 | 29  | 17 | 20  | 14 | 12  | 12 | 15             | 58 | 93  | 67 | 29  | 27 | 48  |  | 44  | 36 | 557   |    |
| PERCENT                | 1 | 5   | 3  | 4   | 3  | 2   | 2  | 3              | 6  | 10  | 17 | 12  | 5  | 9   |  | 8   | 6  | 100   |    |

II B-1739

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE " 12( 2.15 %)

C-B SHALE OIL PROJECT

LEVEL 1100 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - D

| GROUP   | MAX SPEED<br>MPH | WIND DIRECTION |     |    |     |    |     |    |     |     |     |     |     |    |     |     |     | TOTAL |
|---------|------------------|----------------|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-------|
|         |                  | N              | NNE | NE | ENE | E  | ESE | SE | SSF | S   | SSW | SW  | WSW | W  | WNW | NW  | NNW |       |
| GT      | 24               | 1              |     |    |     |    |     |    | 8   | 107 | 159 | 26  | 2   | 1  | 1   | 1   |     | 305   |
| 18 -    | 24               | 1              |     |    |     |    |     | 7  | 37  | 150 | 205 | 84  | 13  | 2  | 4   | 14  | 2   | 519   |
| 12 -    | 18               | 13             |     | 1  |     |    | 13  | 48 | 48  | 89  | 186 | 100 | 25  | 14 | 31  | 46  | 32  | 598   |
| 7 -     | 12               | 24             | 12  | 5  | 1   | 9  | 22  | 32 | 22  | 22  | 73  | 46  | 25  | 20 | 33  | 43  | 25  | 404   |
| 3 -     | 7                | 25             | 26  | 19 | 20  | 14 | 16  | 24 | 21  | 21  | 30  | 29  | 30  | 36 | 21  | 16  | 17  | 369   |
| LT      | 3                | 2              | 8   | 7  | 11  | 6  | 8   | 4  | 11  | 2   | 2   | 14  | 4   | 11 | 6   | 12  | 3   | 119   |
| TOTAL   |                  | 65             | 46  | 44 | 35  | 32 | 29  | 66 | 153 | 400 | 655 | 299 | 99  | 84 | 96  | 132 | 79  | 2314  |
| PERCENT |                  | 3.             | 2.  | 2. | 2.  | 1. | 1.  | 3. | 7.  | 17. | 28. | 13. | 4.  | 4. | 4.  | 6.  | 3.  | 100.  |

[illegible]

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
LEVEL = 100 FEET PERIOD ( 5/ 1/77 TO 5/31/77)

| STABILITY CLASS - E |           | WIND DIRECTION |     |    |     |    |     |     |     |     |     |     |     |     |     |     |     | TOTAL | %   |
|---------------------|-----------|----------------|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|
| GROUP               | MAX SPEED | N              | NNE | NE | ENE | E  | ESE | SE  | SSE | S   | SSW | SW  | WSW | W   | WNW | NW  | NNW | TOTAL | %   |
|                     | MPH       |                |     |    |     |    |     |     |     |     |     |     |     |     |     |     |     |       |     |
| GT                  | 24        | 1              |     |    |     |    |     | 1   | 21  | 181 | 212 | 44  | 8   |     | 1   | 1   | 1   | 471   | 10. |
| 18 -                | 24        |                |     |    |     |    | 4   | 17  | 72  | 198 | 277 | 147 | 17  | 5   | 10  | 13  | 3   | 765   | 16. |
| 12 -                | 18        |                |     |    |     |    |     |     |     |     |     |     |     |     |     |     |     |       |     |
| 7 -                 | 12        |                |     |    |     |    |     |     |     |     |     |     |     |     |     |     |     |       |     |
| 3 -                 | 7         |                |     |    |     |    |     |     |     |     |     |     |     |     |     |     |     |       |     |
| LT                  | 3         |                |     |    |     |    |     |     |     |     |     |     |     |     |     |     |     |       |     |
| TOTAL               |           | 140            | 50  | 71 | 50  | 82 | 140 | 412 | 628 | 890 | 967 | 507 | 182 | 120 | 173 | 242 | 171 | 4825  |     |
| PERCENT             |           | 3.             | 1.  | 1. | 1.  | 2. | 3.  | 9.  | 13. | 18. | 20. | 11. | 4.  | 2.  | 4.  | 5.  | 4.  | 100.  |     |

II B-1741

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 29 ( 0.60 %)

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
 LEVEL = 100 FEET PERIOD ( 5/ 1/77 TO 5/31/77 )

STABILITY CLASS - TOTAL

| GROUP MAX SPEED<br>MPH | N   | NNE | NE  | ENE | E   | ESE | SE  | WIND DIRECTION |      |      |     |     |     |     |     | NNW | NW   | TOTAL % |
|------------------------|-----|-----|-----|-----|-----|-----|-----|----------------|------|------|-----|-----|-----|-----|-----|-----|------|---------|
|                        | 28  | 17  | 17  | 15  | 12  | 12  | 24  | SSE            | S    | SSW  | SW  | WSW | W   | WNW | NW  |     |      |         |
| GT 24                  | 1   |     |     |     |     |     | 1   | 30             | 292  | 384  | 71  | 10  | 1   | 2   | 2   | 1   | 795  | 10.     |
| 18 - 24                | 3   |     |     |     |     | 4   | 25  | 113            | 356  | 507  | 242 | 32  | 8   | 15  | 27  | 5   | 1337 | 16.     |
| 12 - 18                | 38  | 10  | 8   | 2   | 2   | 4   | 89  | 322            | 378  | 458  | 271 | 63  | 29  | 72  | 145 | 91  | 1982 | 24.     |
| 7 - 12                 | 105 | 38  | 38  | 15  | 15  | 41  | 163 | 198            | 202  | 254  | 168 | 93  | 71  | 110 | 169 | 107 | 1787 | 22.     |
| 3 - 7                  | 101 | 68  | 73  | 74  | 98  | 114 | 182 | 134            | 106  | 117  | 107 | 108 | 105 | 104 | 86  | 77  | 1654 | 20.     |
| LT 3                   | 20  | 24  | 32  | 27  | 48  | 49  | 67  | 49             | 51   | 35   | 49  | 30  | 41  | 46  | 41  | 29  | 638  | 8.      |
| TOTAL                  | 268 | 140 | 151 | 118 | 163 | 212 | 527 | 846            | 1385 | 1755 | 908 | 336 | 255 | 349 | 470 | 310 | 8193 |         |
| PERCENT                | 3.  | 2.  | 2.  | 1.  | 2.  | 3.  | 6.  | 10.            | 17.  | 21.  | 11. | 4.  | 3.  | 4.  | 6.  | 4.  | 100. |         |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 64 ( 0.78 %)

|                 |             |         |
|-----------------|-------------|---------|
| PERCENTAGE OF A | STABILITY = | 3.34 %  |
| PERCENTAGE OF B | STABILITY = | 2.38 %  |
| PERCENTAGE OF C | STABILITY = | 6.80 %  |
| PERCENTAGE OF D | STABILITY = | 28.24 % |
| PERCENTAGE OF E | STABILITY = | 58.89 % |



STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
 LEVEL = 200 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - A

| GROUP MAX SPEED<br>MPH                    | N  | NNE | NE | ENE | E  | ESE | SE | SSE | WIND DIRECTION |     |    |     |    |     |    |     | NNW  | NW  | TOTAL   | % |
|---|----|-----|----|-----|----|-----|----|-----|----------------|-----|----|-----|----|-----|----|-----|------|-----|---------|---|
|   |    |     |    |     |    |     |    |     | S              | SSW | SW | WSW | W  | WNW | NW | NNW |      |     |         |   |
| GT 24                                     | 9  | 9   | 5  | 5   | 8  | 6   | 6  | 8   | 30             | 34  | 14 | 16  | 22 | 7   | 12 | 10  | 2    | 1.  |         |   |
| 18 - 24                                   |    |     |    |     |    |     |    | 0   | 2              | 0   |    |     | 1  |     |    | 1   | 1    | 0.  |         |   |
| 12 - 18                                   |    |     |    |     |    |     |    | 1   | 0              | 2   | 2  | 2   | 1  |     | 1  |     | 7    | 3.  |         |   |
| 7 - 12                                    | 4  | 1   |    |     | 2  |     |    | 3   | 5              | 3   | 2  | 3   | 7  | 1   | 8  | 4   | 43   | 17. |         |   |
| 3 - 7                                     | 4  | 4   | 10 | 4   | 12 | 1   | 8  | 8   | 10             | 10  | 7  | 1   | 2  | 4   | 5  | 10  | 100  | 41. |         |   |
| LT 3                                      | 6  | 3   | 10 | 2   | 6  | 8   | 9  | 0   | 8              | 7   | 5  | 7   | 2  | 8   | 5  | 7   | 93   | 38. |         |   |
| TOTAL                                     | 14 | 8   | 20 | 6   | 20 | 9   | 17 | 11  | 25             | 21  | 16 | 13  | 13 | 13  | 19 | 21  | 246  |     |         |   |
| PERCENT                                   | 6. | 3.  | 8. | 2.  | 8. | 4.  | 7. | 4.  | 10.            | 9.  | 7. | 5.  | 5. | 5.  | 8. | 9.  | 100. |     |         |   |
| TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - |    |     |    |     |    |     |    |     |                |     |    |     |    |     |    |     |      | 17( | 6.91 %) |   |

II B-1743

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
LEVEL = 200 FEET PERIOD (5/1/77 TO 5/31/77)

STABILITY CLASS - B

| GROUP MAX SPEED<br>MPH | N | NNE | NE | ENE | E | ESE | SE | WIND DIRECTION |    |     |    |     |    |     |    | NNW | NW  | TOTAL | % |
|------------------------|---|-----|----|-----|---|-----|----|----------------|----|-----|----|-----|----|-----|----|-----|-----|-------|---|
|                        |   |     |    |     |   |     |    | SSE            | S  | SSW | SW | WSW | W  | WNW | NW |     |     |       |   |
| GT 24                  | : | :   | :  | :   | : | :   | :  | :              | :  | :   | :  | :   | :  | :   | :  | :   | :   | :     | : |
| 18 - 24                | : | :   | :  | :   | : | :   | :  | :              | :  | :   | :  | :   | :  | :   | :  | :   | :   | :     | : |
| 12 - 18                | : | :   | :  | :   | : | :   | :  | :              | :  | :   | :  | :   | :  | :   | :  | :   | :   | :     | : |
| 7 - 12                 | : | :   | :  | :   | : | :   | :  | :              | :  | :   | :  | :   | :  | :   | :  | :   | :   | :     | : |
| 3 - 7                  | : | :   | :  | :   | : | :   | :  | :              | :  | :   | :  | :   | :  | :   | :  | :   | :   | :     | : |
| LT 3                   | : | :   | :  | :   | : | :   | :  | :              | :  | :   | :  | :   | :  | :   | :  | :   | :   | :     | : |
| TOTAL                  | 6 | 15  | 11 | 5   | 2 | 8   | 4  | 13             | 13 | 21  | 19 | 16  | 10 | 11  | 18 | 21  | 193 |       |   |
| PERCENT                | 3 | 8   | 6  | 3   | 1 | 4   | 2  | 7              | 7  | 11  | 10 | 8   | 5  | 6   | 9  | 11  | 100 |       |   |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 9 ( 4.66 %)

STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
 LEVEL = 200 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS " C

| GROUP MAX SPEED<br>MPH | N  | NNE | NE | ENE | E | ESE | SE | SSE | WIND DIRECTION |     |    |     |    |     |    |     | NNW | NW | TOTAL | % |
|------------------------|----|-----|----|-----|---|-----|----|-----|----------------|-----|----|-----|----|-----|----|-----|-----|----|-------|---|
|                        |    |     |    |     |   |     |    |     | S              | SSW | SW | WSW | W  | WNW | NW | NNW |     |    |       |   |
| GT 24                  | 15 | 13  | 12 | 8   | 6 | 10  | 16 | 19  | 25             | 33  | 31 | 18  | 23 | 19  | 17 | 16  |     |    |       |   |
| 18 - 24                |    |     |    |     |   |     |    | 2   | 14             | 21  | 14 | 1   | 2  | 1   |    |     |     |    |       |   |
| 12 - 18                | 2  | 1   |    |     |   |     | 2  | 6   | 18             | 31  | 31 | 9   | 1  | 6   | 15 | 8   |     |    |       |   |
| 7 - 12                 | 20 | 10  | 5  | 2   |   | 1   | 1  | 6   | 9              | 15  | 16 | 14  | 6  | 17  | 24 | 21  |     |    |       |   |
| 3 - 7                  | 7  | 7   | 3  | 11  | 8 | 8   | 5  | 7   | 10             | 6   | 6  | 4   | 6  | 11  | 12 | 5   |     |    |       |   |
| LT 3                   | 2  | 3   | 2  | 2   | 0 | 8   | 5  | 1   | 6              | 4   | 1  | 4   | 4  | 5   | 5  | 1   |     |    |       |   |
| TOTAL                  | 31 | 21  | 13 | 15  | 8 | 17  | 13 | 22  | 59             | 80  | 76 | 32  | 19 | 40  | 56 | 35  |     |    |       |   |
| PERCENT                | 6  | 4   | 2  | 3   | 1 | 3   | 2  | 4   | 11             | 15  | 14 | 6   | 4  | 7   | 10 | 7   |     |    |       |   |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 16( 2.98 %)

# STABILITY WIND ROSE DIAGRAM

C-8 SHALE OIL PROJECT  
 LEVEL = 200 FEET PERIOD( 5/ 1/77 TO 5/31/77)

STABILITY CLASS - D

| GROUP MAX SPEED<br>MPH | N  | NNE | NE | ENE | E  | ESE | SE | WIND DIRECTION |     |     |     |     |    |     |     | NNW | NW   | WNW | W   | WSW | SW | SSW | S | SSE | SE | SSE | SSW | SW  | WSW | W  | WNW | NW | NNW | TOTAL | %  |
|------------------------|----|-----|----|-----|----|-----|----|----------------|-----|-----|-----|-----|----|-----|-----|-----|------|-----|-----|-----|----|-----|---|-----|----|-----|-----|-----|-----|----|-----|----|-----|-------|----|
|                        | 23 | 11  | 14 | 8   | 7  | 13  | 22 | 32             | 42  | 46  | 36  | 28  | 29 | 22  | 3   | 2   | 13   | 75  | 229 | 75  | 13 | 3   | 2 | 3   | 25 | 77  | 158 | 137 | 29  | 10 | 3   | 6  | 7   | 457   | 21 |
| 5T 24                  | 1  |     |    |     |    |     |    | 2              | 66  | 229 | 75  | 13  | 2  |     |     |     |      |     |     |     |    |     |   |     |    |     |     |     |     |    |     |    |     | 393   | 18 |
| 18 - 24                | 3  |     |    |     |    |     | 2  | 25             | 77  | 158 | 137 | 29  | 10 |     |     |     |      |     |     |     |    |     |   |     |    |     |     |     |     |    |     |    |     | 457   | 21 |
| 12 - 18                | 15 |     | 1  |     |    | 2   | 5  | 21             | 54  | 109 | 122 | 41  | 13 |     |     |     |      |     |     |     |    |     |   |     |    |     |     |     |     |    |     |    |     | 471   | 22 |
| 7 - 12                 | 21 | 9   | 9  | 3   | 2  | 2   | 17 | 21             | 37  | 37  | 56  | 29  | 25 |     |     |     |      |     |     |     |    |     |   |     |    |     |     |     |     |    |     |    |     | 402   | 19 |
| 3 - 7                  | 19 | 12  | 7  | 10  | 13 | 13  | 21 | 23             | 32  | 34  | 17  | 5   | 18 |     |     |     |      |     |     |     |    |     |   |     |    |     |     |     |     |    |     |    |     | 282   | 13 |
| LT 3                   | 4  | 4   | 7  | 8   | 6  | 6   | 7  | 11             | 17  | 17  | 11  | 12  | 4  |     |     |     |      |     |     |     |    |     |   |     |    |     |     |     |     |    |     |    |     | 153   | 7  |
| TOTAL                  | 62 | 25  | 24 | 21  | 21 | 23  | 52 | 103            | 283 | 584 | 418 | 129 | 73 | 102 | 132 | 100 | 2152 |     |     |     |    |     |   |     |    |     |     |     |     |    |     |    |     |       |    |
| PERCENT                | 3  | 1   | 1  | 1   | 1  | 1   | 2  | 5              | 13  | 27  | 19  | 6   | 3  | 5   | 6   | 5   | 100  |     |     |     |    |     |   |     |    |     |     |     |     |    |     |    |     |       |    |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 29( 1.35 %)

# STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
 LEVEL = 200 FEET PERIOD: 5/1/77 TO 5/31/77

STABILITY CLASS = E

| GROUP MAX SPEED<br>MPH | N   | NNE | NE | ENE | E  | ESE | SE  | WIND DIRECTION |     |      |     |     |     |     |     | NNW | NW | TOTAL | %   |
|------------------------|-----|-----|----|-----|----|-----|-----|----------------|-----|------|-----|-----|-----|-----|-----|-----|----|-------|-----|
|                        |     |     |    |     |    |     |     | SSE            | S   | SSW  | SW  | WSW | W   | WNW | NW  |     |    |       |     |
| GT 24                  | 1   |     |    |     |    | 1   | 1   | 11             | 152 | 339  | 153 | 12  | 4   | 2   | 2   | 1   |    | 679   | 14. |
| 18 - 24                | 1   | 0   | 3  |     |    | 0   | 14  | 56             | 212 | 271  | 249 | 53  | 6   | 8   | 31  | 12  |    | 916   | 18. |
| 12 - 18                | 1   | 30  | 10 | 1   | 2  | 1   | 63  | 246            | 214 | 228  | 187 | 66  | 11  | 28  | 103 | 77  |    | 1278  | 26. |
| 7 - 12                 | 1   | 57  | 23 | 13  | 8  | 25  | 69  | 117            | 130 | 124  | 104 | 69  | 34  | 40  | 104 | 55  |    | 981   | 20. |
| 3 - 7                  | 1   | 61  | 18 | 31  | 28 | 65  | 101 | 76             | 66  | 43   | 23  | 43  | 34  | 56  | 49  | 43  |    | 762   | 15. |
| LT 3                   | 1   | 19  | 3  | 7   | 10 | 14  | 35  | 29             | 40  | 25   | 17  | 22  | 21  | 30  | 22  | 21  |    | 353   | 7.  |
| TOTAL                  | 168 | 57  | 63 | 48  | 49 | 127 | 286 | 535            | 814 | 1030 | 733 | 265 | 110 | 164 | 311 | 209 |    | 4969  |     |
| PERCENT                | 3.  | 1.  | 1. | 1.  | 1. | 3.  | 6.  | 11.            | 16. | 21.  | 15. | 5.  | 2.  | 3.  | 6.  | 4.  |    | 100.  |     |

TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 59 ( 1.19 X )



STABILITY WIND ROSE DIAGRAM

C-B SHALE OIL PROJECT  
LEVEL = 200 FEET PERIOD (5/ 1/77 TO 5/31/77)

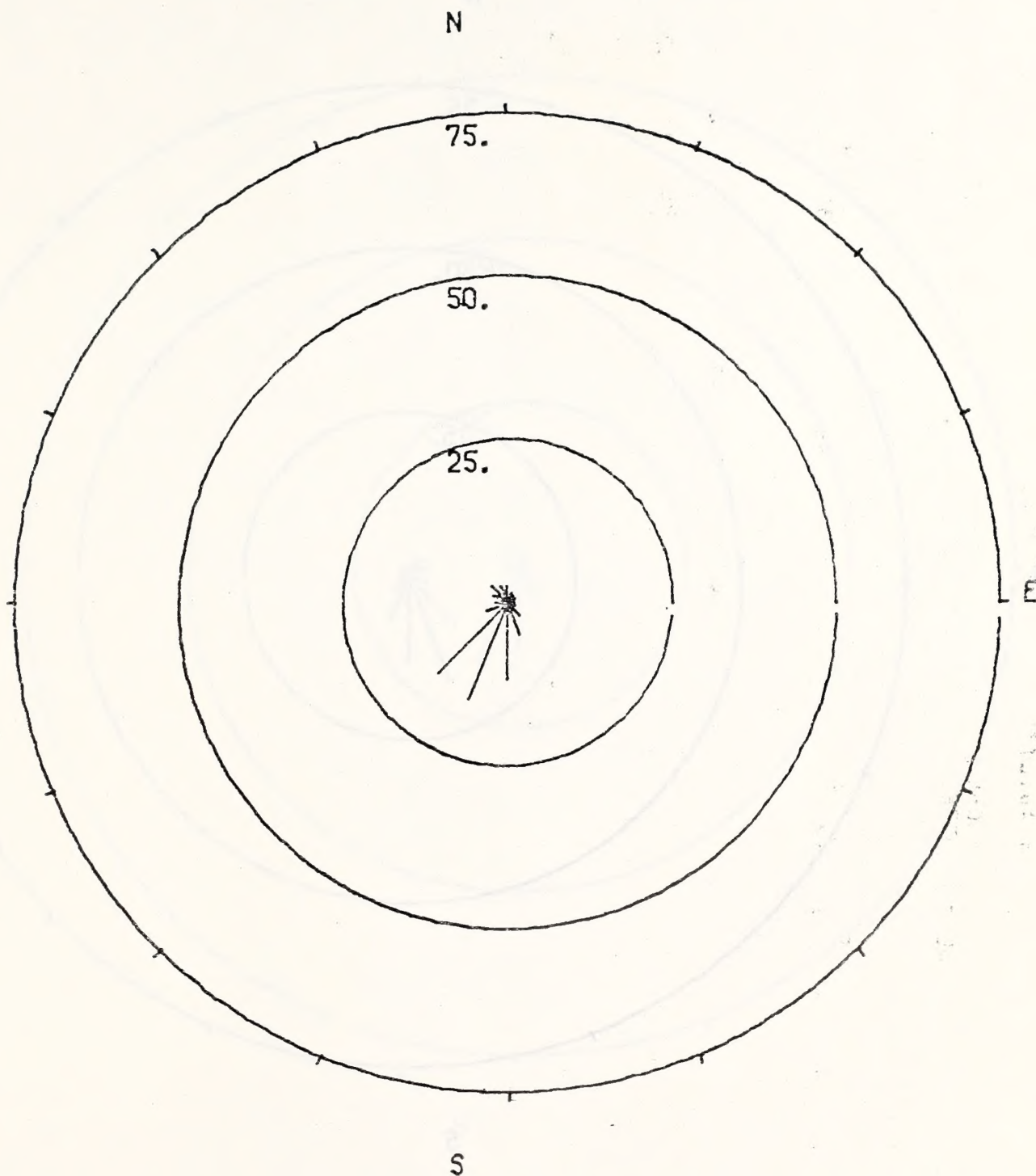
STABILITY CLASS - TOTAL

| GROUP MAX SPEED<br>MPH | WIND DIRECTION |     |     |     |     |     |     |      |      |      |     |     | NW  | NNW | TOTAL |         |
|------------------------|----------------|-----|-----|-----|-----|-----|-----|------|------|------|-----|-----|-----|-----|-------|---------|
|                        | N              | NNE | NE  | ENE | E   | ESE | SE  | SSE  | S    | SSW  | SW  | WSW |     |     |       | W       |
| GT 24                  | 1              |     |     |     |     | 1   | 13  | 221  | 572  | 236  | 25  | 7   | 2   | 4   | 1     | 1084 13 |
| 18 - 24                | 3              | 3   | 1   |     |     | 0   | 83  | 303  | 452  | 401  | 83  | 19  | 12  | 37  | 19    | 1432 18 |
| 12 - 18                | 47             | 11  | 12  | 1   | 2   | 3   | 275 | 291  | 374  | 346  | 121 | 26  | 57  | 161 | 112   | 1909 23 |
| 7 - 12                 | 104            | 45  | 31  | 14  | 12  | 29  | 148 | 187  | 187  | 186  | 125 | 76  | 95  | 203 | 133   | 1662 20 |
| 3 - 7                  | 95             | 47  | 57  | 57  | 59  | 93  | 122 | 119  | 96   | 57   | 56  | 61  | 104 | 83  | 87    | 1330 16 |
| LT 3                   | 34             | 21  | 32  | 24  | 28  | 60  | 46  | 75   | 57   | 38   | 47  | 39  | 62  | 51  | 36    | 714 9   |
| TOTAL                  | 284            | 127 | 133 | 96  | 101 | 186 | 687 | 1196 | 1738 | 1264 | 457 | 228 | 332 | 539 | 388   | 8131    |
| PERCENT                | 3              | 2   | 2   | 1   | 1   | 2   | 8   | 15   | 21   | 16   | 6   | 3   | 4   | 7   | 5     | 100     |

11 B-1748

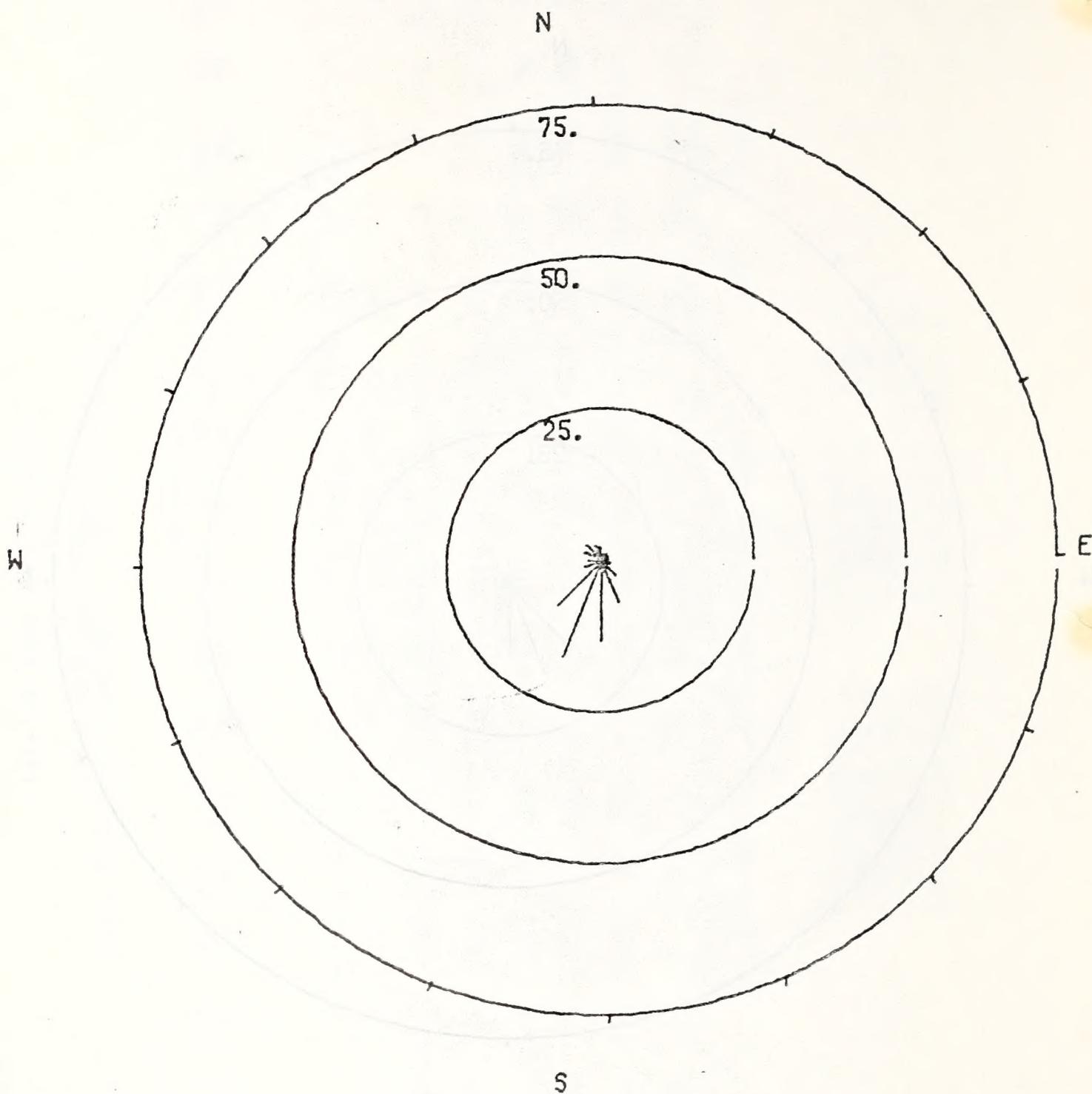
TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 130 ( 1.60 % )

|                 |             |         |
|-----------------|-------------|---------|
| PERCENTAGE OF A | STABILITY = | 3.03 %  |
| PERCENTAGE OF B | STABILITY = | 2.37 %  |
| PERCENTAGE OF C | STABILITY = | 6.60 %  |
| PERCENTAGE OF D | STABILITY = | 26.47 % |
| PERCENTAGE OF E | STABILITY = | 61.11 % |



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 8 FOOT LEVEL

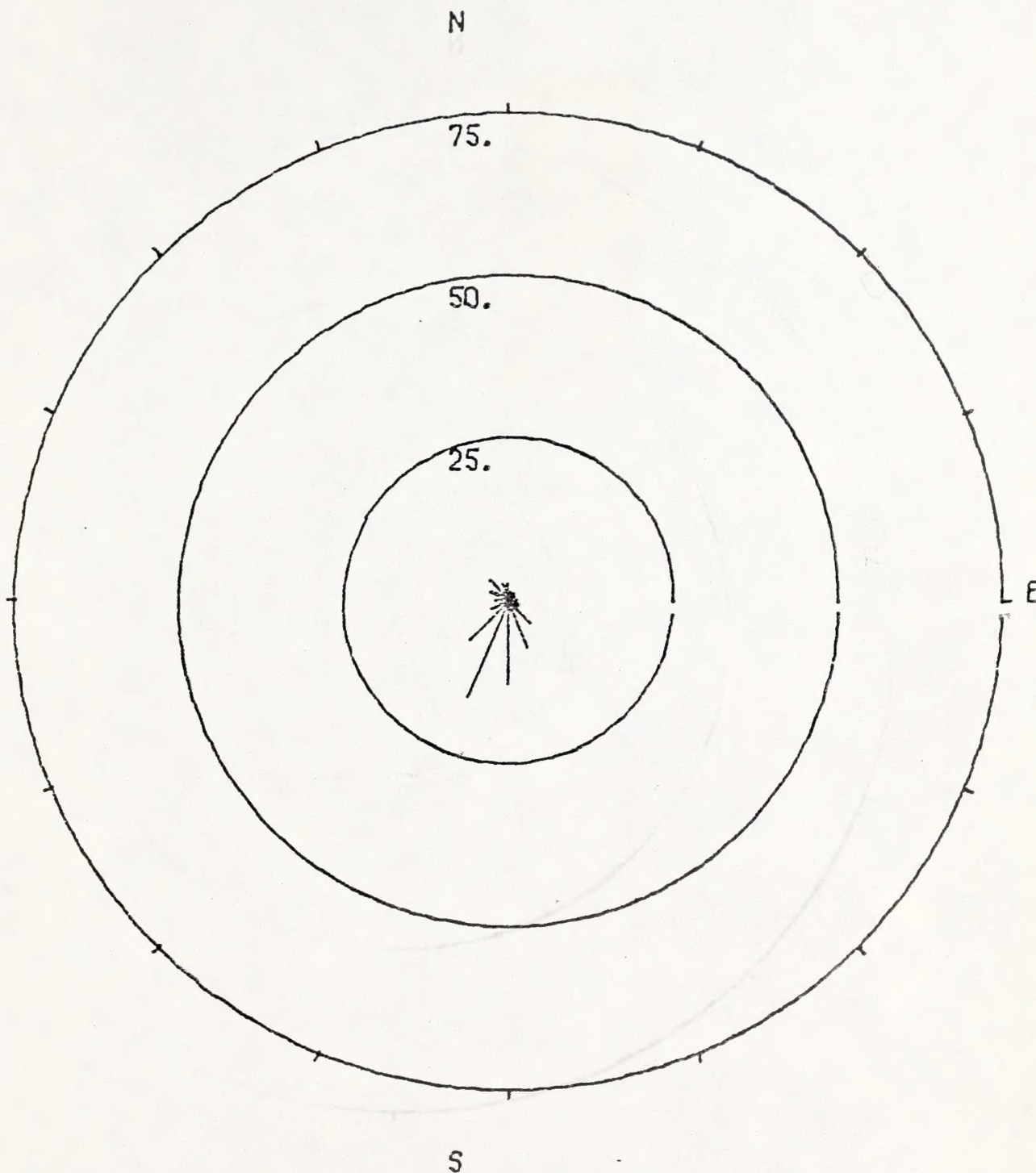
II B-1749



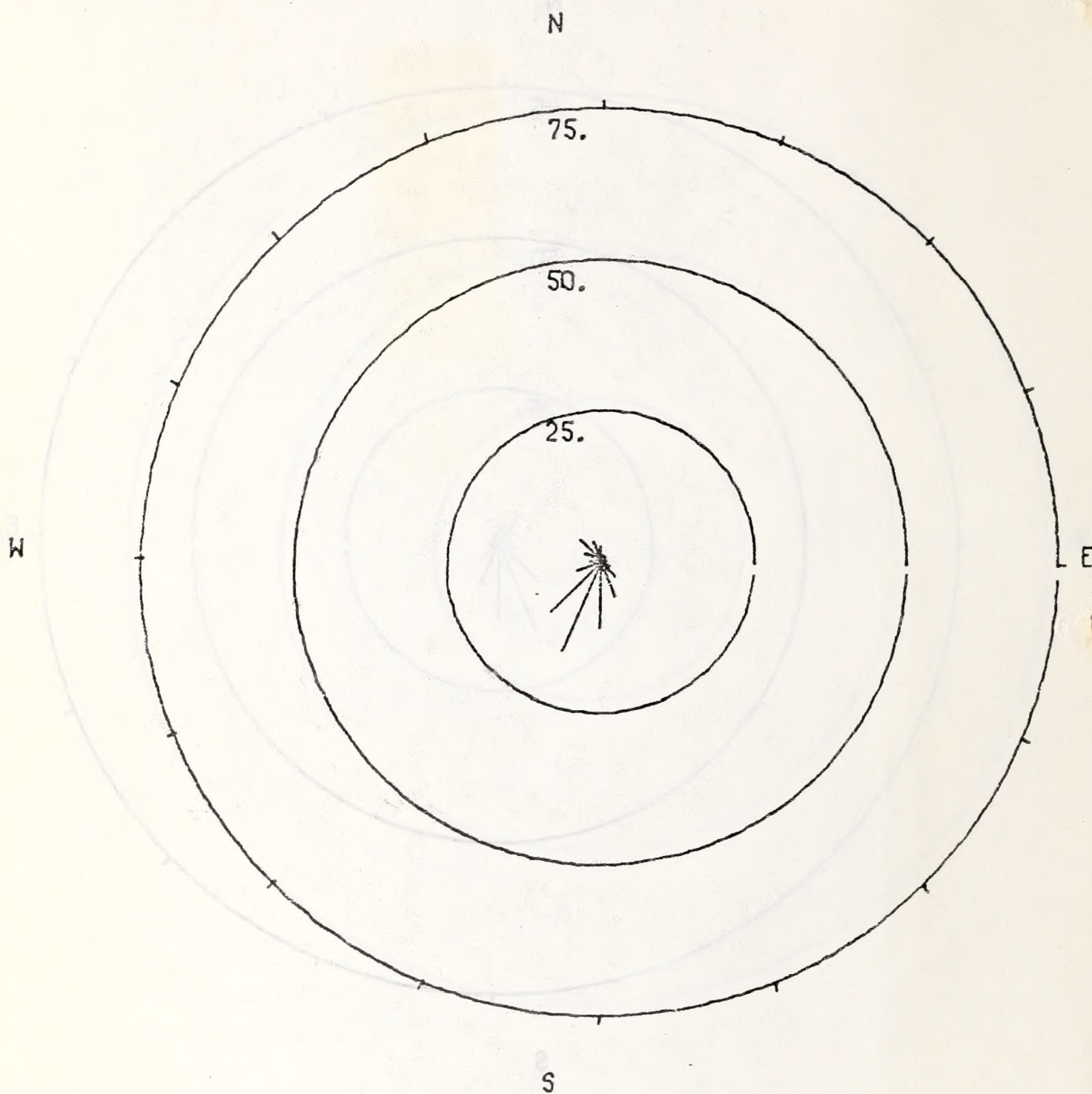
PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 30 FOOT LEVEL

II B-1750





PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 100 FOOT LEVEL



PERCENTAGE OF OCCURRENCE OF WIND DIRECTION FOR 200 FOOT LEVEL